

Desert

AUGUST, 1958 . . . 35 Cents



Navajo

By LEIGHTON ZEBOLD
Cucamonga, California

Only the wild goose knew the trail,
Winging his way out of the wilds
Of barren Athabascan snow.
Only the wild geese, braving the gale,
Knew the land that is Navajo.

Heeding the clamorous call from the sky,
Trusting the words of *lagaigi*,
Southward from Saskatchewan,
Over the peaks Lukachukai
Came this stanch American.

Out of the wastes of rock and sand,
Over the suffering centuries,
Fashioned he a hearth and home,
His only implement the hand
To shape the arrow and the loom.

Out of the Nature-World he knew,
Bird and beast, the small, the great,
His gods were cast. A simple faith
That Spirit, choosing what is true,
At last shall triumph over Death.

PAINTED DESERT

By GLADYS I. HAMILTON
Summers, Arkansas

Were you the ancient clay pot
Used by God to mix his clays,
The greens and blues, the rose and reds,
Those first beginning days?

And when His task was finished
And the world was as He planned,
Did He fling aside the colored clay
To crumble into sand

That covers your immensity
Of blending hills and rocks?
Were these the primal pigments
God used from His paint box?

I think you hold a secret,
Painted Desert, in the sun;
A secret only you could share
With the Omniscient One!

VISION

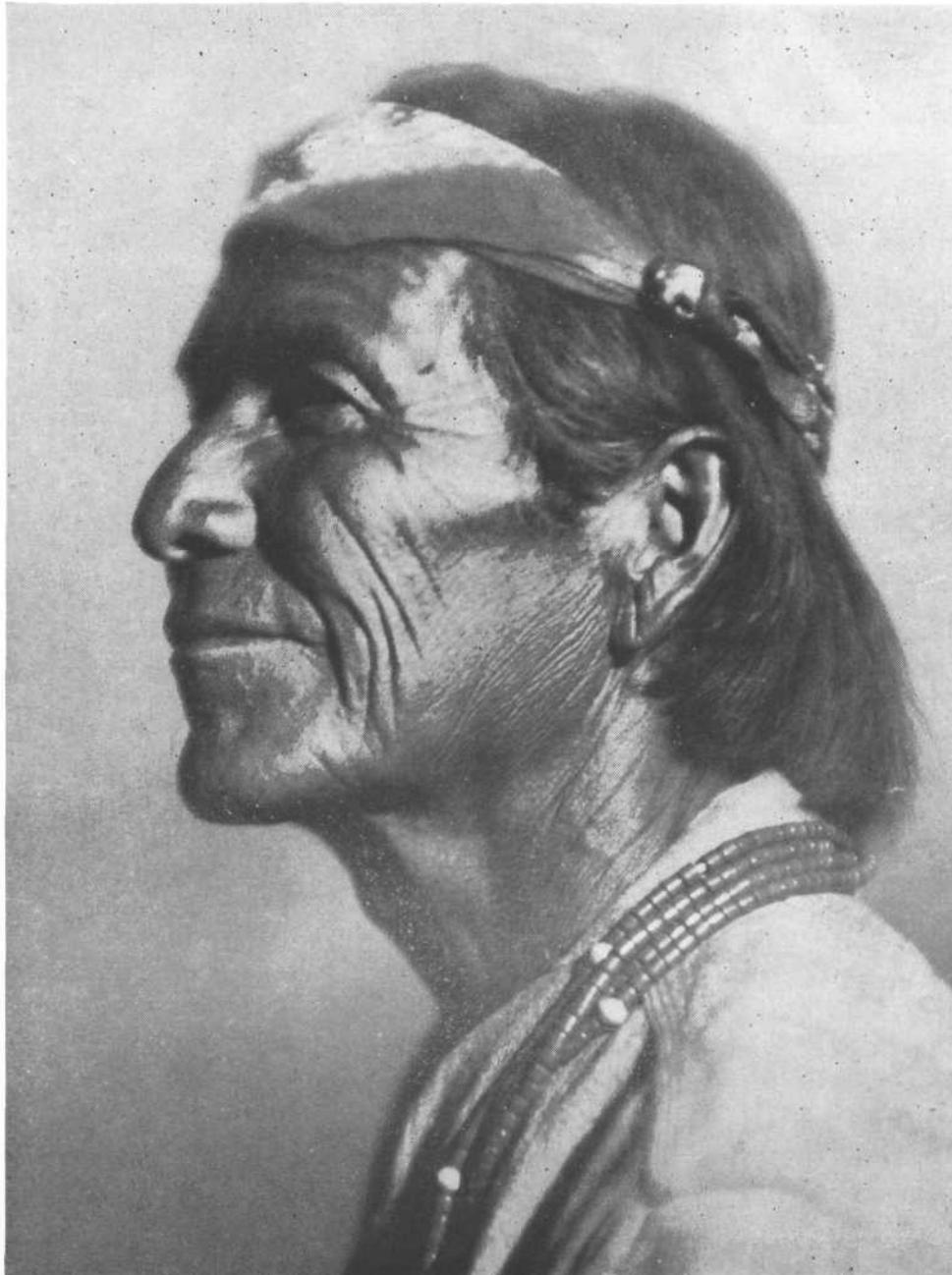
By MERLE BLINN BROWN
Piedmont, California

From the mountain's highest peak
Where the winds are blowing free,
And the streams that feed the rivers
Start their journeys to the sea—
There I see Thy wondrous purpose
In the wind and flowing tide,
Thanks, O Lord, for breadth of vision,
Fresh and strong, and deep, and wide.

Prayer

By TANYA SOUTH

The olden ways, the olden views
Depart, and different things infuse
Our daily living. Yet is prayer
Unchanged. It guides us now to fare
In this mad traffic—how to live.
And teaches us to daily sieve
The true from false. Prayer is the key
Unto all higher gates there are.
Whatever be our Fate's decree,
Our earnest prayers will guide us far
Along the line of true endeavor,
Upward—ever.



DESERT SHACK

By E. MURIEL SILVERWOOD
Duarte, California

They call it a shack
Back of the dune
Bleak in the sunlight
Cold 'neath the moon . . .

A haven I call it
From the jungle of life
I bask in seclusion
Away from the strife.

COYOTE'S SERENADE

By ADELAIDE COKER
Ojai, California

Were I
Your love I'd not
Resist your wooing long . . .
Anything, bold coyote, to stop
Your song.

LITTLE TRAILS

By GRACE PARSONS HARMON
Desert Hot Springs, California

The little trails are winding
Across the desert land,
Where creosote scents the ranges
And white-plumed yuccas stand.

The little trails are winding
Around saguaros tall,
And underneath the sotol
Where waiting nestlings call.

Across the range they're winding,
Down to the water hole,
Where the coyote yaps a challenge
On his stealthy night patrol.

The little trails are winding—
They wander as they may—
Where little trails are winding,
Care "takes a holiday"!

DESERT CALENDAR

July 27-August 3—Navajo Craftsman Exhibit, Museum of Northern Arizona, Flagstaff (see page 7).
 July 31-August 3 — Eastern Sierra Tri-County Fair, Bishop, Calif.
 August 1-3—Rough Riders' and Cowboys' Reunion and Rodeo, Las Vegas, New Mexico.
 August 1-3—Billy the Kid Pageant, Lincoln, New Mexico.
 August 2—Old Pecos Dance, Jemez Pueblo, New Mexico.
 August 2-3—Horse Show, Pine Valley, California.
 August 4—Corn Dance, Santo Domingo Pueblo, New Mexico.
 August 8-10 — 74th Annual Rodeo, Payson, Arizona.
 August 9—37th Smoki Ceremonials and Snake Dance, 8 p.m., Prescott, Arizona.
 August 10—Fiesta de San Lorenzo, Picuris Pueblo, New Mexico.
 August 12—Annual Fiesta and Corn Dance, Santa Clara Pueblo, N.M.
 August 14-16 — Cache County Fair and Rodeo, Logan, Utah.
 August 14-17 — Inter-Tribal Indian Ceremonial, Gallup, New Mexico.
 August 15—Assumption Day Fiesta and Corn Dance, Zia Pueblo, N.M.
 August 15-17 — Davis County Fair, Kaysville, Utah.
 August 16-17, 23-24—Pony Express Days, Ely, Nevada.
 August 20-24 — Salt Lake County Fair, Murray, Utah.
 August 21-23 — County Fair and Rodeo, Logan, Utah.
 August 21-24—Nevada Fair of Industry, Ely.
 August 22 — County Fair, Tooele, Utah.
 August 23-24 — Box Elder County Fair, Brigham City, Utah.
 August 23-24 — Coconino County Sheriff's Posse Roundup, Sedona, Arizona.
 August 25 — Summit County Fair, Park City, Utah.
 August 25-31—National Speed Trials, Bonneville Salt Flats, Utah.
 August 28—San Augustin Fiesta and Dance, Isleta Pueblo, New Mexico.
 August 29-September 1—Annual Fiesta, Santa Fe.
 August 29-September 1—Fiesta, Morongo Valley, California.
 August 29-September 1—County Fair and Livestock Show, Elko, Nevada.
 August 30-31 — Pow Wow, Apple Valley, California.
 August 30-September 1—Lions Stampede, '49er Show, Fallon, Nevada.
 August 30-September 1—Iron County Fair, Parowan, Utah.
 August 30-September 1 — Pioneer Days Rodeo, Kingman, Arizona.
 August 30-September 1 — Rodeo, Williams, Arizona.
 August 30-September 1 — Homecoming and Rodeo, Bishop, Calif.
 August 30-September 1—30th Annual Nevada State Rodeo, Winnemucca.
 August 31-September 1—Labor Day Rodeo, Eureka, Nevada.
 Late August—Hopi Snake Dances at Shipaulovi, Shungopavi and Hotevilla. For exact dates (set 16 days before ceremonials) and information regarding bus transportation, car caravans, etc., send stamped addressed envelope to Winslow, Arizona, Chamber of Commerce.



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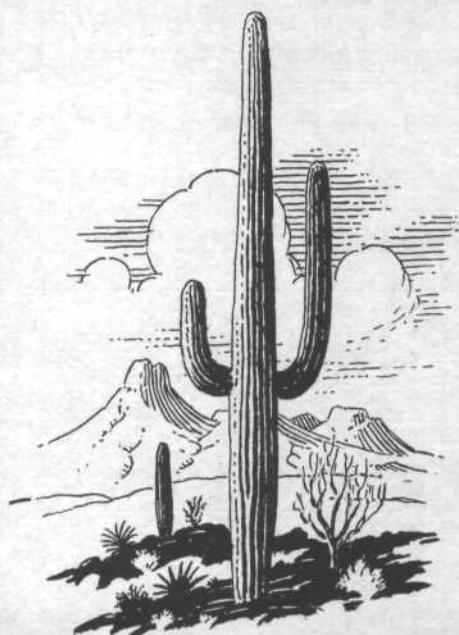
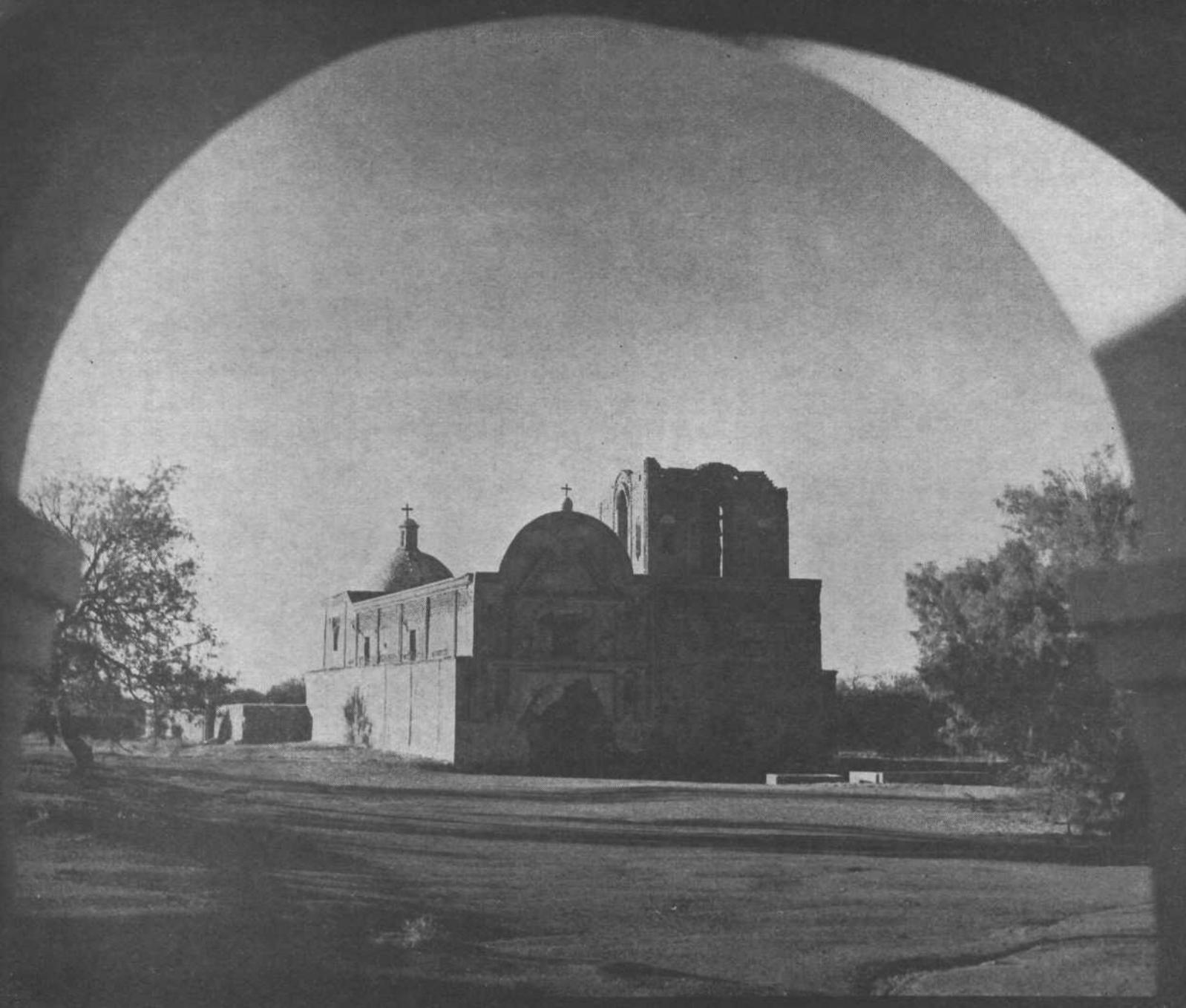
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HISTORIC PANORAMAS XVIII

Mission Tumacacori

By JOSEF and JOYCE MUENCH

NOW A NATIONAL monument, Mission Tumacacori was founded by the tireless Father Kino in 1696. The present structure, located about 10 miles north of Nogales, Arizona, was built on the site of several earlier ones. It was dedicated in 1822.

The church is 50 by 100 feet. Its walls, of sun-dried adobe bricks laid in mud mortar, are six feet thick at

the base and three feet at the top. Certain sections of the wall, such as those supporting the tower, are as much as 10-feet thick.

A lovely mission garden and museum keep the sturdy old building, bereft of its tower, bells and decorations, company with all its rich history as one of the chain of Missions founded by the Spanish in the *Pimeria Alta*.

Lost Bells of Tumacacori . . .

One of the Southwest's most romantic lost treasure legends concerns the fate of the mission bells of Tumacacori in southern Arizona. The existence of these priceless bells is supported by historical fact—but so far they remain undiscovered, presumably buried beneath the desert sands by the priests who were forced to abandon the mission.

By PHYLLIS W. HEALD

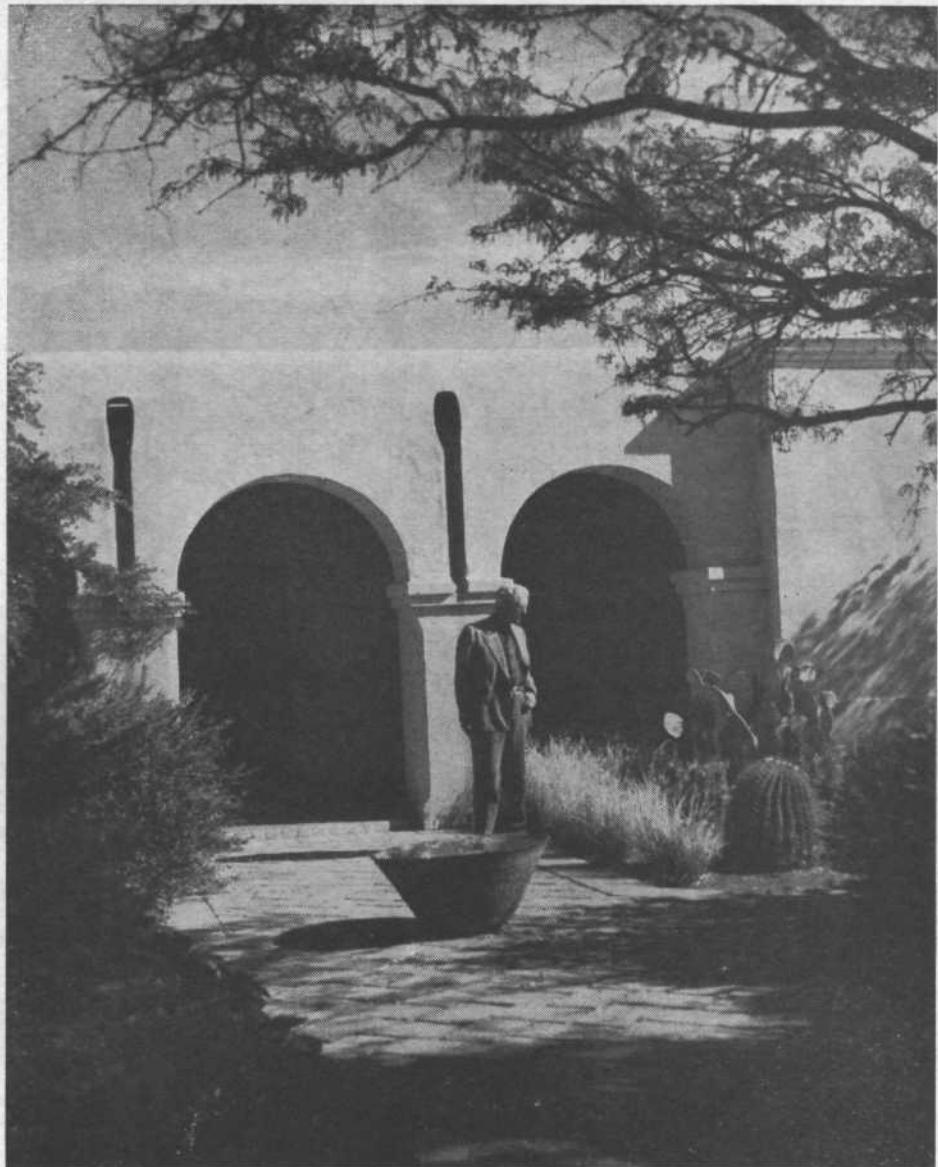
TREASURE HUNTERS usually look for gold, silver, precious stones or fabulous mines. But 48 miles south of Tucson, around the old mission of San Jose de Tumacacori, those who dig for a hidden prize are searching for bells—four perfect bells, cast in Europe at about the time Columbus discovered America. They were four heavenly bells that rang, not in unison, but chimed with a harmony symbolic of the peace and prayer for which they stood — four melodious bells that sang across the silent Santa Cruz Valley with the dulcet voices of angels, and raised in hope and faith the heads and hearts of all who heard them.

These are what the treasure seekers of Tumacacori toil to find. And unquestionably some day someone will unearth them, because the bells exist. The legend of the Lost Bells of Tumacacori is not a figment of the imagination nor is it a dream. It is a true story based on actual fact.

The story commences, as most mission tales of Arizona do, with the arrival of Father Kino, the great pioneer Jesuit priest. In 1696 he established San Jose de Tumacacori, one of the 24 missions in the chain of Christianity that stretched across what is now New Mexico and Arizona to link the old world with the new.

This work was going well when suddenly, in 1767, the Jesuits were expelled from Spanish dominions. A year later the responsibility of saving savage souls was given to priests in the Order of Saint Francis.

There followed prosperous days for the missions. Even raids by fierce unconquerable Apache Indians failed to destroy the seeds of civilization that the black- and brown-robed bearers of the Cross had planted and nurtured. But the career of Christianity was not destined to continue uninterrupted. Mexico, after gaining her independence in 1812, found that without help



Mission Tumacacori's garden. Among its venerable olive trees the visitor can find peace and a sense of timelessness. Photograph by Weldon F. Heald.

from the coffers of the Spanish kings, she was unable to finance her mission outposts. So, reluctantly, she called both her priests and her soldiers home.

Just when and how the four bells were brought from Europe, and whether they hung in either of the first two churches on this site, is not known. But that the present edifice, started in 1800 and completed by 1822, held three of them in its belfry tower is a recorded fact. H. M. T. Powell in his book, *The Santa Fe Trail, 1849-1852*, wrote on October 5, 1849: ". . . as I was riding slowly along driving loose cattle, I heard the toll of a church bell . . ." On the following day he

describes a visit to Tumacacori: "In the square tower there were three large bells, and there was one lying inside the church dedicated to Senor San Antonio and dated 1809."

Another unknown factor in the story of Tumacacori is the exact date when the last priests and Indians left the mission. But by 1853, when the region became part of the United States through the Gadsden Purchase, Tumacacori had been abandoned and was a prey to vandalism and neglect. President Theodore Roosevelt set it aside in 1908 as Tumacacori National Monument. The administration and care of this 10-acre area is under the

supervision of the National Park Service. The monument is open to the public from 9 to 5 daily, and is well worth a visit.

The legend concerning the Lost Bells stems from that unknown date when the missions were deserted. At that time, the padres, realizing they could not possibly carry four heavy iron bells with them, and not wishing to leave such prized possessions to be destroyed by marauding Apaches, decided to hide them. Two priests, sworn to secrecy, took the bells into the desert and buried them. These men, it is reported, carefully memorized the exact location.

Thus the brown-robed friars left, expecting to return when politics and finances permitted. They never did. Many years have passed and now even the names of the two priests who held the secret of the buried treasure are forgotten. But remembrance of the bells' existence has stayed alive, and out of that fragment of truth has grown today's legend.

In recent years since treasure hunting has become a popular pastime, hundreds of people have looked for the Lost Bells of Tumacacori. Maps have been drawn from reports given by old-timers and Indians who claimed to have followed the padres and known the location. The valley floor has been honeycombed with diggings. And, as is true of all lasting legends, every once in a while new information comes to light that revives the story and gives it new impetus. Such an incident occurred in 1902.

In that year one Signor G. Munguia brought two bell clappers to the University of Arizona at Tucson, claiming they were from the Lost Bells of Tumacacori. He said that his grandfather, Jose Soza, had found them in a field about 500 yards from the mission many years before. The report is credible because Soza was a young man at the time the Mission was abandoned, and was well acquainted with the priests of Santa Cruz Valley. The two bell tongues can be seen at Tuma-

caci where they are on permanent loan from the University's museum collection.

And if these clappers are not proof enough that the bells exist, legend claims that by standing quietly in the mission garden among its venerable olive trees, one will find peace and a sense of timelessness. And, if very fortunate, will hear the bells chime. Not together, but as the bells of Tumacacori have always rung—in mellifluous harmony.

THE *Desert* MAGAZINE
CLOSE-UPS

During *Desert Magazine's* first year, two articles by Laurence M. Huey were carried in this publication: "Coyotes" (Jan. '38) and "Willie of Death Valley" (Aug. '38). And now, after a 20-year absence, Huey's third story appears: "Pinyon Jays Are Funny."

Huey was born in 1892 in the TiaJuana Valley "within a few rods of the U.S.-Mexican boundary and almost on the shores of the Pacific Ocean." An early interest in natural history led to a long and distinguished career with the Balboa Park Natural History Museum at San Diego. Since 1923 he had collected, studied and written extensively in the field of natural history.

* * *

"Mine has been a haphazard writing career" writes Trudy Alford of Albuquerque, author of "Children of the Sky Dwellers" in the current issue.

If this is true, we probably can blame the busy life she leads. First, she has four children — Janet, 15; Karen, 11; Lee Thomas, 9; and Barry, 7. Secondly, she manages the Alford's 32-acre ranch, their large home, four horses, and "a nice assortment of sheep, cattle, chickens and rabbits."

* * *

Through the years the work of Max H. Robinson of Douglas, Arizona, has appeared in many Western publications. She (Max's real name is Mary) is the author of "Just a Dusty Desert Road" in this issue of *Desert*.

A member of the Huachuca Writers, her hobby is the study of Spanish which has led to many of her stories being published in Mexican magazines.

* * *

Norman B. Wiltsey, author of "When Riches Come to the Navajo," is editor of *Frontier Times* magazine, published in Austin, Texas. Born in upper New York state, Wiltsey says that he read and dreamed about the West from earliest boyhood.

Hard Rock Shorty of Death Valley



Late one afternoon just as Hard Rock Shorty and Pisgah Bill came out the tunnel where they had finished their day's shift in the silver mine, a dude prospector came up the trail leading a burro packed with a shiny new outfit—a gold pan and pick which obviously had never been used and a spotless bedroll and tarp.

He explained that he was looking for a lost gold mine reported to be somewhere in the Funeral Range, and began asking questions. He admitted he did not know anything about geology, but he was sure he would recognize gold if he saw it.

"Ain't no gold in these hills," Shorty told him rather abruptly. "Pisgah and me have sampled every foot of 'em."

"Besides, there's an easier way to git gold than swingin' a pick. My partner, Bill's figgered out how to git rich without workin'."

"You've heerd of them trade rats—some folks call 'em pack rats. This desert's full of 'em. They raid the pantry every night, an' if you leave any food lyin'

around it's gone in the mornin'. But them rats is honest—they always leave somethin' in place o' what they took.

"Pisgah Bill got the idea o' ketchin' a bunch of them rats and teachin' 'em the difference between gold an' ordinary rocks. Then he took 'em up in Nevada to one of them placer fields. He'd put a few bright shiny nickels out on the porch every evenin' an' in the mornin' them nickels wuz all gone and in place of every one was a little nugget of gold. Then Bill ran out o' nickels, an' started putting out quarters. Them little rascals knew the difference and started bringin' in bigger nuggets.

"Bill wuz doin' all right. Soon had a quart jar full o' gold nuggets. But he soon used up all the nickles and dimes he had, includin' a few half dollars. Then he got another idea. That night he spread bottle tops around over the porch. An' next mornin' when he went out to collect the gold, all he found on the porch was coyote dung."

Museum Where 'Ideas' Are More Important Than 'Things' . . .

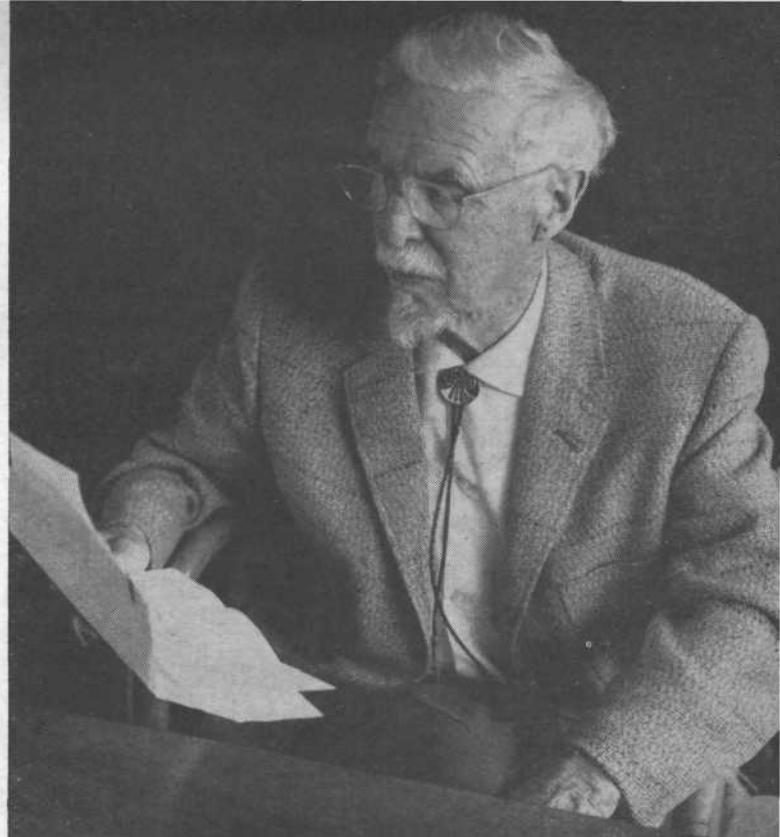
The Museum of Northern Arizona is recognized as one of the outstanding institutions of its kind in the nation—and it reached this covetous pinnacle through the inspirational guidance of Harold and Mary-Russell Colton who believe museums should display "ideas" rather than "things."

By NELL MURBARGER

NEARLY HALF A CENTURY has passed since Dr. and Mrs. Harold S. Colton first chose northern Arizona as a vacation site.

Carrying back-packs in the summer of 1910, this professor of zoology from the University of Pennsylvania and his talented artist-ethnologist wife, Mary-Russell F. Colton, explored the San Franciscos, Arizona's highest peaks, and from their hoary summits looked out upon a

Mary-Russell F. Colton. Photo by the author.



Dr. Harold S. Colton. Photo by Christy Turner II.

shimmering vastness greater than anything they had known.

Determined to learn more about this strange merging place of desert and mountains, another summer found them traveling with saddle horses and pack animals, forging still deeper in Arizona's northern back country. Subsequent years brought horses and a wagon, and more dim trails; and, as those trails expanded into rutted roads, the Coltons progressed to the relative luxury of a Model-T Ford.

Roaming over the red sand and high rocky plateaus of the Indian Country which extends 200 unbroken miles northeast of Flagstaff, the Coltons gained an intimate acquaintance with this land and its tribesmen. Halting where night overtook them, cooking over a juniper wood campfire, and sleeping under the desert stars, they befriended nomadic Navajo shepherds and silversmiths, Hopi farmers and potters. Gradually gaining the respect and confidence of these desert tribesmen, the Coltons came to know their ways and customs, their legends and superstitions. The ingenious manner in which these people had adapted to their harsh environment never ceased to amaze the Pennsylvania educator and his wife; nor did they ever fail to find delight in the handcrafts produced by the beauty-loving artisans.

As their knowledge of the Indian traditions and handcrafts increased, the idea of a museum in which the arts of these desert tribesmen would be preserved began to take form in their minds. Thus it was that in 1928 the Museum of Northern Arizona came into being at Flagstaff.

I was aware that during the 30 years since its inception this Museum had gained nation-wide recognition for its program of research and public service. One authority once said to me: "I consider the Museum of Northern Arizona the model for regional museums everywhere."

One of its amazing achievements is that it has carried on a vast program of conservation and education without charging admission fees or asking subsidy from the taxpayers.

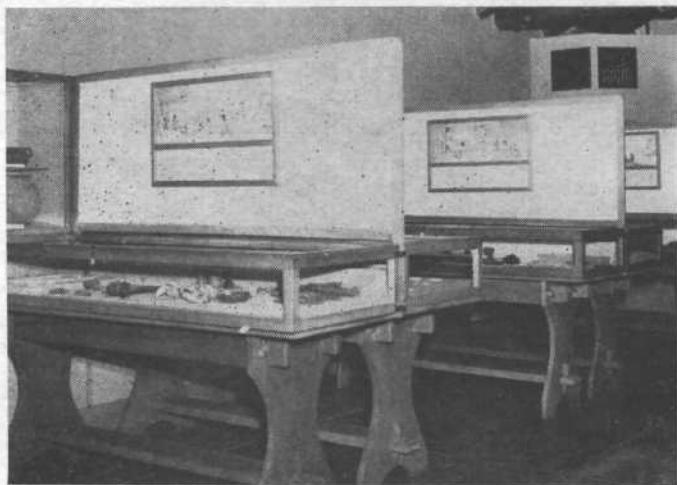
Perhaps the secret of the Museum's fine prestige in the scientific world is revealed in the legend that I saw in

neat block letters outside the entrance to the beautiful native stone building:

**"THIS MUSEUM DISPLAYS IDEAS,
NOT THINGS."**

I opened the massive front door and stepped into a lobby as bright and attractive as that of a fashionable resort hotel. A large picture window framed a sparkling view of the nearby San Francisco Peaks, standing frosty and white, and facing that inspiring scene was a casual half circle of easy chairs and a comfortable divan.

Evelyn Roat, the friendly receptionist, whisked me through a doorway marked "No Admittance," down a long corridor, and into a room overflowing with posters, placards, photographs, filing cases, charts, graphs, books and pamphlets. Seated at a table was a tall young man busily filling in the colors on a poster which described the function of well corings. A few minutes after making the acquaintance of Barton Wright, curator of arts and exhibits, I knew that if all men possessed his enthusiasm and drive, the world would need no time clocks.



Illustrations, text and artifacts combine to give the visitor a better understanding of the ancient cultures.

Photo by the author.

When I explained my curiosity regarding the *modus operandi* of displaying an idea, Barton led me to the exhibit room on archeology-ethnology, favorite subjects of mine.

Rather than the usual hodgepodge of stone implements, pottery and dusty baskets, each case in the room illustrated a specific story. The cultural development of northern Arizona's Indian people, for example, was divided into 200-year periods, the first case depicting development from 500 to 700 A.D., the next case from 700 to 900 A.D., etc. Studying these cases I realized that even after years of amateur interest in archeology, I had quickly gained here a better understanding of some phases of that science than I had ever known before.

An important reason for this clarity of interpretation and general harmony of the exhibits is that every article is displayed as if it were a choice piece of merchandise in a modern department store. Cases are lined in pastel colors, each chosen to best complement the material exhibited in it. Even the explanatory cards are color-selected to harmonize with the cases. The text on these cards is worded so simply that any 10-year-old can understand them.

Paintings and drawings portraying the tribal life in the periods covered by each case are simply but graphically done; photographs are sharp and clear; and only those artifacts essential to illustrating one specific story are presented in each exhibit case. The total material on

display represents much less than 10 percent of that owned by the museum, the remainder being housed in an adjoining research building where it is available to students.

Moving past the displays, I found a case illustrating the century-by-century development of Navajo weaving; one describing the evolution of Navajo pottery making, and another on the Douglass Tree-Ring system of dating ruins. Truths which previously had been only dry-as-dust scientific assertions, take on the meaning of life here.

Original plans for such a museum as this began to take form in the early 1920s. At that time large archeological expeditions from the East came to Flagstaff each summer; and each autumn they shipped to distant centers thousands of prehistoric specimens, forever lost thereafter to the state of their origin. To Dr. Colton and a few residents of the area, it seemed most regrettable that some of this material was not being retained locally. As a consequence, these interested citizens agreed to provide wall cases if the women of Flagstaff would set aside a room for them in a new clubhouse they were building. The cases were installed and soon filled with material; but, as no one then living in the area was trained in museum management, the project languished.

After the Coltons established their home at Flagstaff in 1926, Dr. Colton continued to promote the idea of a museum. One day, while visiting Dr. Frank C. Lockwood, then head of the English Department at the University of Arizona, he steered the conversation around to the subject nearest his heart. As it happened, Dr. Lockwood was scheduled to address the Flagstaff Chamber of Commerce, and since he hadn't decided on a subject, he offered to discuss the local need for a museum. On July 22, 1927, the eminent Tucson educator convinced members of the civic group that their town needed such an institution.

The professor's talk created so much enthusiasm the Chamber immediately appointed a museum committee headed by Dr. Grady Gammage, then president of the Arizona State Teacher's College. At its first meeting, The Northern Arizona Society of Science and Art was created. In the spring of 1928 the local Women's Club offered two rooms in its clubhouse, rent-free, and in September the Museum of Northern Arizona was opened to the public. By the following spring its activities had expanded so greatly the Society leased the entire clubhouse. Even these quarters soon were outgrown, and in 1932 the Monte Vista Hotel provided the Society with a vacant store room, rent-free. Two years later, when the hotel developed other plans for its building, the museum again was without a home.

It was Mary-Russell F. Colton, Dr. Colton's wife, who came to the rescue by presenting the Society with 30 acres of valuable land on the west side of Fort Valley Road, three miles north of Flagstaff. On this site the Society constructed its own fine stone building, and a home for Jimmy Kewanwytewa, a Hopi Indian from Oraibi who began serving as museum custodian in 1930 and is still filling that job in commendable fashion.

Since her first contribution of land in 1935, Mrs. Colton has come to the financial aid of the museum on numerous occasions. In 1946 she gave the Society her fine Antelope Valley ranch buildings and 13 acres of land to form the nucleus of a Research Center. In 1954 she donated another 11 acres, and in 1957 26 acres, thereby increasing the Society's holdings to 110 acres of choice rolling wooded land.

In its 1927 Constitution and By-laws, the Northern Arizona Society of Science and Art cites as its purpose: ". . . to increase and diffuse knowledge and appreciation of science and art, and to maintain in the City of Flagstaff a museum; to collect and preserve objects of artistic and



Museum patio. San Francisco Peaks in background. Photo by Christy Turner II.

scientific interest, to protect historic and prehistoric sites, works of art, scenic places, and wildlife from needless destruction; to provide facilities for research and publication, and to offer opportunities for aesthetic enjoyment."

Through the ensuing three decades the Society has held steadfastly to those ideals. This is an important reason why the Museum of Northern Arizona has enjoyed 30 years of unflagging popularity, and is regarded today as a model among small museums in the United States.

From 1952 to 1957 the Museum was visited by over 92,000 persons. During the summer of 1957 58 percent of all adult visitors came from states other than Arizona—as many from foreign countries as from Flagstaff itself.

Although most visitors see only the main exhibit rooms, students and others with scientific interests are welcome to use all facilities in the Research Center across the highway.

One large cinder-block building in the Center houses long stacks of shelves laden with prehistoric baskets,

Stone Age implements, and thousands of pieces of Indian pottery ranging from tiny clay pots to ollas almost large enough for a man to hide in. The Museum owns more than 34,000 archeological specimens.

In this same building is housed the Museum's reference library, where Librarian Katharine Bartlett is responsible for 6000 volumes and 9600 pamphlets, all dealing with Southwestern subjects, and an incredible file of 2200 historical maps, 7500 negatives and photographs, and hundreds of scientific papers, unpublished manuscripts and journals. Prior to her appointment as Curator of History and Librarian in 1953, Miss Bartlett served the Museum from 1930 to 1952 as Curator of Anthropology.

That this amazing collection of material has been gathered, prepared, cataloged and maintained completely without tax revenue, either from city, county, state or federal sources, seems little short of miraculous. At times the State of Arizona has voted to the Museum a grant to pursue some certain piece of research; but for opera-

tional or expansion funds the Museum has been strictly on its own. A recent auditing set the Museum's valuation at \$1,407,391.61.

Since its inception, one of the Museum's main projects has been the study, preservation and encouragement of native Indian handcrafts.

During her early desert rambles, Mary-Russell Colton learned that Hopi pottery and other handcrafts had deteriorated so greatly in quality and workmanship they no longer appealed to the buying public. Seeking to revive these dying arts, Mrs. Colton organized the Hopi Craftsman Exhibition in 1930. Since the Hopis at first were cool to the idea, it was necessary for the Coltons to woo potential exhibitors individually.

Describing those formative years, Mrs. Colton wrote in the Society's official organ, *Plateau*:

"We used to trek across the desert three or four times each year. In the spring we made our 'visiting trip', when we called on everyone in each of the villages known to make any type of article. We visited the potters,



Front entrance to the Museum. Photo by the author.

LETTERS

Waterman Mill Was Dismantled . . .

Daggett, California

Desert:

On page 36 of the June issue there is a news item taken from a Barstow paper which is in error. The facts are the historic Waterman Mill was dismantled by my father in 1892 and never rebuilt — therefore manganese ore is not being processed there as the newspaper reported.

A little mill erected in 1952 by Frank Parker and known as the Parker Mill recently has been trying to process some ore. This mill is situated about a quarter mile northeast of the Waterman Mill site. It has never ground any ore from the Waterman Mine. None of the Watermans are associated with this manganese activity.

ROBERT W. WATERMAN

• • •

Ways of a Wise Bird . . .

Palmdale, California

Desert:

While on a camping trip to Death Valley in 1927, we stayed one evening near the mouth of a canyon in the Panamint Mountains down which a small stream of cold clear water trickled. Posted at the entrance to the canyon was a U.S. Government sign worded, "WARNING—Poison Water. Do not use for any purpose."

Along the canyon wall and very close to the water was an old pipeline

evidently placed up the canyon to reach a good water source. At a joint in the pipe a single drop of water would collect every few minutes. While we watched, a small bird alighted on the pipe at the joint and reached under to take the drops of pure water as they formed, completely ignoring the poisoned water flowing along the ground below.

MRS. LaVERNE G. RILEY

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Snakes Made Him a Liar . . .

El Cajon, California

Desert:

I was interested in the editorial remarks in the June issue relative to seeing rattlesnakes on the desert. In my 35 years of wandering over the deserts I have seen only two rattlesnakes. During the many years that Henry Wilson was searching for the Lost Pegleg Mine he also saw only two snakes, and these encounters were under rather amusing circumstances.

Henry told me that on one of his Pegleg treks he had induced two men from Los Angeles to grubstake him, but before they left on the venture they wanted to be assured that they would not run into any snakes. Henry told them that in all the years of traveling over the desert he had yet to run into his first rattlesnake. They reached Indio after dark and had to stop for some reason along the stretch near Travertine Point, and there across the highway in the glare of the headlights was one of the largest rattlesnakes Henry had ever seen.

He had a difficult time pacifying his

the basketmakers, the weavers, the leather workers, and the silversmiths, and we talked of the exhibit. When the evening came, we made our camp somewhere on the village outskirts, in a peach orchard, or on the mesa in the junipers and our friends came to see us. We sat together by the campfire and talked in the peace of the evening.

"On our first visit, we collected material ready to be taken in, but our second trip, in late June, was the big collecting trip. All day from early morning until late evening we went from house to house in each village, and in the houses the people brought out their work for us to select the best for exhibition.

"Every exhibitor received a receipt for his work and every piece was tagged. In the evening and in the early morning the people who had been in the fields came with their work to our camp. . . .

"After many years of camping, we found it more restful to take a little

companions, but they finally got under way again and proceeded up one of the washes to make camp. While they were getting settled one of the men remarked that he heard a buzzing sound out in the bushes and wanted to know what it was.

Upon investigating with a flashlight they discovered another rattler and then Henry's companions really blew up. They accused him of every sort of misrepresentation and told him that they wanted nothing more to do with such a "danged liar." With that they packed up and headed for home.

WALTER FORD

• • •

Precious Desert Plant Life . . .

Tucson

Desert:

I'd like to congratulate you on the very timely and forthright article, "We Would Protect Desert Plant Life," by Harry C. James (*Desert*, May, 1958). I wish it could be given wide circulation among the thousands of newcomers who are pouring into Arizona each year.

It's a crime to see the bulldozers scrape off thousands of acres of desert vegetation in every part of the state. Then, after the new home owner has a completely denuded dusty lot, he goes out and digs up cactus and other desert shrubs to replace exactly what was originally on his property.

As I get older, I begin to think the human race hasn't as much sense as it should have.

WELDON F. HEALD

house in one of the villages and make this our headquarters when we came visiting. We had a little house on a ledge, high up over the valley near Shipaulovi. It was our house for many years and a very peaceful place . . .”

Goods thus collected were displayed during the first week of July each year. Prizes were awarded for the best entries in various classes, and, with subsequent sale of the goods, all proceeds given to the Hopis.

Only 212 articles were displayed at the first Exhibition. Popularity of the show increased rapidly, however, and today the four-day presentation attracts hundreds of entries, is viewed by thousands of persons, and approximately 75 percent of all goods exhibited are sold. As direct result of this continued competition, the quality of Hopi pottery has improved until now it is as good or better than at any time in history. Navajo craftsmen hold a similar exhibition at the museum during the closing days of July.

Another Museum project, now in its 25th year, is the Junior Indian Art Show consisting of the best oil paintings, water colors, pen and crayon sketches, hand-blocked textiles, sculptures, etc., submitted by Hopi and Navajo students.

Heading the judging committee was Mrs. Colton, a famous artist and exhibitor in her own right, and for many years Curator of Art at the Museum. Any of the young Indian artists whose work was under consideration would have been gratified, I am sure, to know how much honest effort was devoted to selecting the three award winners in each class. As I tagged along behind the judging committee, I could see that its members were definitely partial to entries which were not a mere reflection of some white teacher's conventional education in art, but were done in the true Indian style—an art-form as delightful and completely distinctive as that of a Japanese print.

I thoroughly enjoyed my visit with Mary-Russell Colton. Seldom have I met a more friendly woman, or one having a keener sense of humor or more sparkling personality.

To exaggerate Dr. Colton's contribution to the study of Arizona's prehistoric peoples is impossible. In addition to his 30 years as director of the Museum, Dr. Colton took a prominent part in the creation of Sunset Crater and Walnut Canyon national monuments, did some of the first scientific excavation work at Wupatki Ruins, and has written copiously on archeological subjects.

Some idea of the abundance of pre-



Hopi Craftsman Exhibit scene. From left, June Finley, Museum art assistant; Jimmy Kewanwytewa, custodian; and Maxine Gibson, receptionist. Photo by Christy Turner II.

historic dwelling sites in northern Arizona may be had from the fact that in the 12 years preceding the founding of the museum, Dr. Colton collected and catalogued material, and recorded information from 1280 individual sites in the Flagstaff vicinity. All this valuable material was turned over to the museum, and with it as a nucleus the work of cataloguing these former dwelling sites has gone forward steadily until today the museum has information and surface artifacts from more than 7000 prehistoric sites in northern Arizona. The Museum of Northern Arizona is actually what its name implies. Its collections, exhibits and other activities are confined strictly to Arizona north of the 34th Parallel which bisects the state in half.

For all the 30 years of the museum's life, that irresistible force which has made this institution great has been Dr. Harold S. Colton and Mary-Russell F. Colton. Naturally, they have not done it alone. In addition to a board of 22 trustees, including some of Flagstaff's most prominent citizens, the Museum currently has a paid staff of 15 members, each proficient in his line. But more than all-around efficiency and thorough training of per-

sonnel is necessary to lift an institution head and shoulders above all others in its class—I am certain that this added push has come from the long-sustained interest of Dr. and Mrs. Colton.

When they chose Arizona Territory for a vacation site in that summer of 1910, it was a good day for them—and a very lucky day for Arizona.

MEXICO CLAMPS DOWN ON RELIC ROBBERS

The Mexican Government is intensifying its efforts to stop the illegal exportation of archeological treasures from that country. The United States is the prime market for these smuggled goods because of proximity and the fact that buyers pay premium prices.

Authorities believe strong action is needed if the country is not to be stripped of its centuries-old relics, including idols, vases, jars, jade pieces, etc. Federal agents have located at least 15 well-organized bands dedicated to the plundering of archeological treasures. Some of these use private planes to carry on their work.—*Phoenix Gazette*

ON DESERT TRAILS WITH A NATURALIST --- LII

Edible Plants That Grow Along the Desert Trails

To be a good cook one needs a good imagination — especially when preparing meals over a campfire. This month Dr. Jaeger divulges some of his culinary secrets, and the reader will find these meals tasty, nourishing, and—perhaps most important of all when cooking in the out-of-doors—easy to prepare.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

ON A MARCH morning in 1929, Dr. Stillman Berry, the eminent mollusk specialist, two of my students and I left Saratoga Springs in the Death Valley region and motored up the steep rock-strewn road

leading southward into one of the canyons of the intriguing Avawatz Mountains. It was a long pull, and we did not get to the place where we hoped to collect land snails until noon. We had had an early breakfast, and

Dr. Jaeger working in the field.



now we were very hungry. It was decided, in the interest of saving time, that I would cook lunch while the others went up-canyon to search for snails.

"It's such ideal territory for finding a new snail, lots of rock slides and deep crevices," said Dr. Berry. "I predict we will have our prize even by the time the meal is prepared."

"I don't think it is so certain that you'll have quite that good fortune," I said, "but we'll see what the outcome is."

The supply box was woefully low on provision after five days of camping, and I was at wit's end deciding what to prepare. Finally I got something cooking, and was about ready to call the men in when I heard a great shout not very far up-canyon.

"What's all this noise about?" I called.

"Wait until you see!" replied Dr. Berry triumphantly as he came running back toward camp with hand outstretched toward me. Near the skillet where I was vigorously stirring my concoction of hot food, he excitedly showed me several small beautifully-banded desert land snail shells.

"A brand new one," he said. "A really brand new one, and, of course, an unnamed one."

"Well, what are you going to call it?" I asked.

"Naturally, *Avawatzica* will be its specific name in deference to these mountains of rugged grandeur where we found it. From now on it will be called *Sonorelix avawatzica*."

Just then Dr. Berry caught sight of the dark red mixture stewing in my skillet.

"And what are you going to call that?" he asked, pointing an extended finger toward it. "I never saw the likes of that before—it too must be new and have a name bestowed upon it."

"I'll just call it 'avawatzica', too," I jestfully replied. And to this day the newly-invented camp dish has gone by that name. In all the succeeding years it has been a favorite. I've served it to groups of nearly a hundred persons, and all have pronounced it good. This dish, which may be considered the backbone of a meal, recommends itself in part because it can be made so quickly. Here's the recipe for generous servings for three:

In four tablespoons cooking oil, butter or margarine brown two heaping tablespoons of flour in a skillet or saucepan. Pour in one can tomato sauce or tomato soup and

one can red kidney beans. Boil well for three minutes. The browned flour gives a zestful baked flavor. It's simple to make, yet so pleasantly good.

I created another worthy camp dish in 1937 on a sketching trip for my desert wildflower book. We were camped at the base of Kokowee Peak in the Mojave Desert's Ivanpah Mountains, and at day's close came the question from hungry companions: "What's on the menu tonight? We're starving!"

"I don't know what it will be, but whatever it is we will call it 'kokowee-ica' after our campsite," I replied.

I gave directions to get the juniper campfire started, and then looked over the depleted supplies in the grub-box. Working hurriedly, I came up with the following:

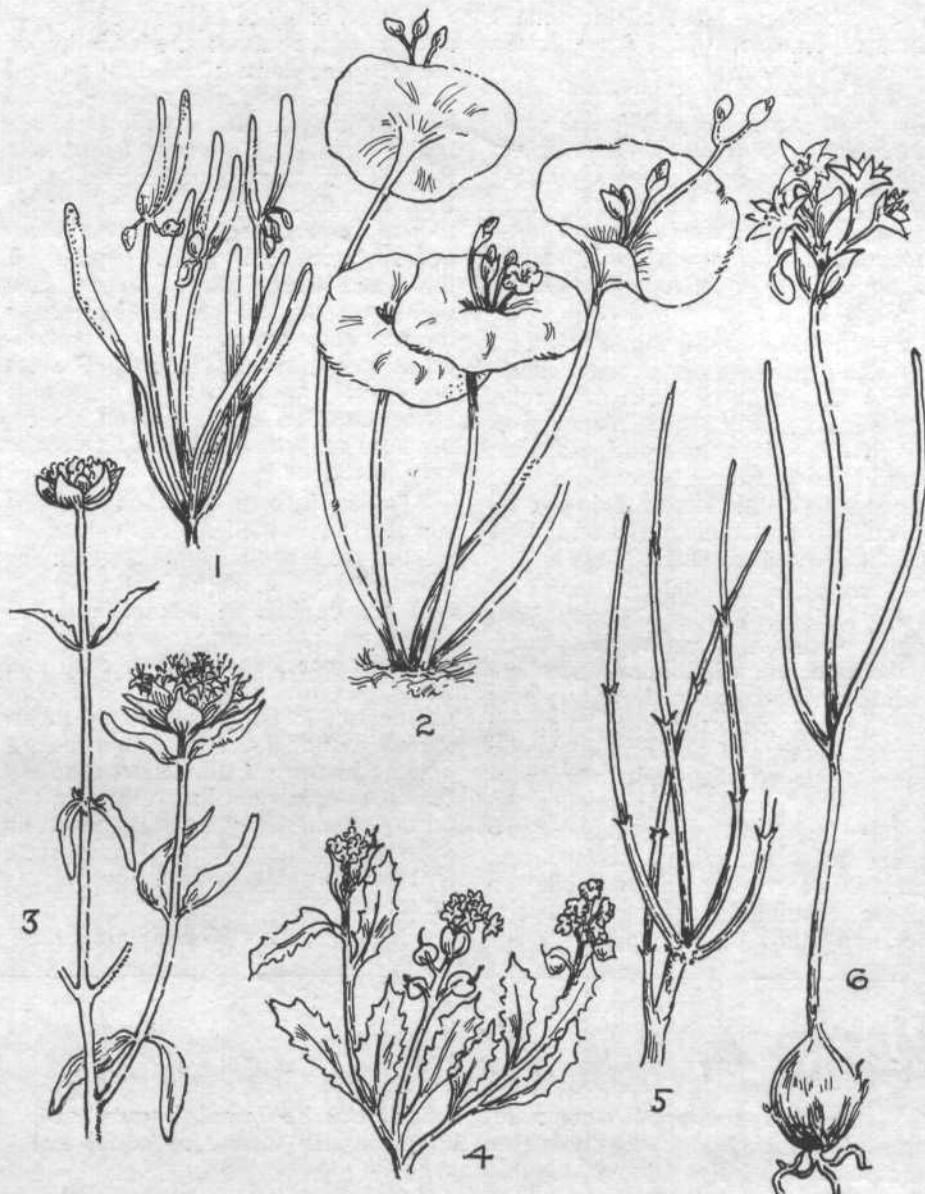
Two cups of elbow macaroni placed in rapidly boiling salted (half teaspoon) water, and cooked until tender. When done, drain off the water, then add a can of tomato sauce. When this is well cooked in, stir in a cup of diced American cheese. Serve after the cheese melts.

Folks often write me to ask about the merits of desert or squaw tea as a camp or home beverage, and especially how to prepare it. At least seven kinds of desert tea (*Ephedra*) grow on our western deserts. Among the most common are: *Ephedra californica*, with coarse yellow-green stems; *Ephedra nevadensis*, with gray-green stems; and *Ephedra viridis*, with vividly green broom-like clusters of branches.

Ephedra viridis sometimes is called "mountain squaw tea" because it is found at higher elevations (4000 to 7000 feet). It is a particularly handsome plant where it grows among black lava blocks or junipers of red volcanic soils. This species, in my estimation, is the most flavorful. I use it green or dried.

All one has to do to make a good drink is to brew a handful of the small jointed stems for about 10 minutes in a couple of quarts of vigorously boiling water. This beverage is surprisingly refreshing, especially if a little sugar is added to bring out the flavor. Lemon juice or strawberry jam may be put in for variety. Squaw tea is said to be a good source of vitamin C, often lacking in ordinary camp fare.

In those areas where the desert approaches forested mountains, there are species of a kind of mint called "pennyroyal" (*Monardella*) which also make good tea. It has a delicacy of flavor all its own, and I generally keep



Some desert plants which can either be eaten or brewed into tea. 1. narrow-leaf miner's lettuce. 2. round-leaf miner's lettuce. 3. pennyroyal. 4. yellow pepper-grass. 5. desert tea. 6. wild onion.

a supply of dried plants on hand for winter use. They are best gathered when in full flower. Added sugar brings out the full blossomlike aromas.

Mexican chocolate also makes an excellent beverage. It can be purchased prepared and boxed in round-cakes in most Mexican stores (*abarcates*) for about five pesos (40c) a package (six cakes), or you can make your own from cocoa, as I sometimes do.

I was introduced to this drink many years ago while botanizing in Baja California's desert mountains south of Ensenada. Two Mexican cowhands, with whom we fraternized one evening, made it from raw ingredients. They boiled several spoonfuls of ground cocoa beans in water, added a dash of black pepper, cinnamon and native

brown sugar (*panocha*). I had some canned milk which we put in to help bring out the delicate spicy flavor. The chocolate available in Mexican stores has, in addition to the cinnamon, powdered almonds and eggs. Our supper that night consisted of chocolate, well-baked tortillas and fresh cactus fruits from the widespread pitahaya agria (*Lemairocereus gummosus*). We had a simple but well-balanced meal, healthful and satisfying.

There are a number of desert herbs which can be used with distinct advantage in scrambled eggs. Among these are some members of the mustard family such as squaw cabbage (*Streptanthus inflatus*) and yellow pepper-grass (*Lepidium flavum*). I fold the cut-up leaves into the beaten eggs. These greens are in season but

a few weeks, so most of the time I prepare omelets with domesticated herbs as follows:

*For three servings beat six eggs in a saucepan, add a little salt and a few cut-up sprigs of fresh or dried thyme (*Thymus vulgare*) or marjoram (*Origanum hortensis*), three tablespoons of canned milk and one-fourth cup of finely minced cheese. Fluff and brown in butter or oil in an iron skillet or Dutch oven.*

Several species of miner's lettuce (*Montia*) grow on our deserts, generally in the shade of rocks or shrubs. They make a very acceptable salad as do several kinds of wild crucifers found in early spring. Ocotillo flowers spiced with a little lemon and olive oil are said to add both flavor and vivid color to any green salad.

If you like the delicate flavor of young onions, you can satisfy your cooking or salad needs by using some of the wild onion bulbs that often are found in abundance in gravelly places on the higher desert slopes. In spring a great number of the simple slender green leaves of wild onion often protrude above ground. The small white marble-sized bulbs are found about two inches below the ground surface, and generally can be secured by pulling up on the leaves after the soil has been loosened with a knife or pick.

A good many of my correspondents have inquired about the edibility of the fat green fruits of the Mojave and Tree yuccas. The Indians are said to have eaten them after roasting or boiling. I am still at a loss to know how they found them palatable. I have tried repeated boilings in fresh water to remove the soapy flavor, but without success. Every time I pour off the water a big pile of foamy suds builds up on the ground beneath—the last water seems as full of saponaceous substances as the first. The flat black yucca seeds contain a very high grade cooking and salad oil which, properly refined, is mild in flavor and very nutritious.

My first interest when on a desert trip is in the wildlife. I am constantly alert to see new things even in familiar haunts, and I often fill my notebook with choice bits of Nature news. I also revel in the bright sunshine, the scented breezes and sight of sand and rocks and hills and plains. But I do not neglect to enjoy the simple meals served out-of-doors that appease a healthy hunger. At breakfast time my German apple pancakes very often are on my menu. They have proven to be a favorite with my young friends. Here is how to prepare them for serving three:

Into one egg whipped in one and

one-fourth cups of milk put sufficient wheat flour (pre-mixed with a full teaspoon of baking powder and one-third teaspoon of salt) to make a batter that is rather thin. Pare one sweet apple, cut in quarters and slice very thin, then fold in. Fry pancakes in salad oil, and when done to rich yellow brown serve with syrup made from manzanita berries, maple syrup or, better yet, wild choke cherries. The latter is made from wild cherries I gather in late August in the mountains.

Equally good in camp, especially on a winter morning, is apple corn bread made by thinly slicing an apple, and adding it to a corn muffin mix. Baked in a Dutch oven with plenty of hot creosote bush, mesquite or ironwood coals on the rimmed lid to insure a brown top crust, it is delicious every time.

I suggest that my readers delve into Charles Francis Saunders' "Useful Wild Plants of the United States and Canada" and Sturdevant's *Edible Plants*, as they explore new ways to augment the camp menu. Camp cooking is lots of good fun—and can be educational for we learn much interesting and valuable plant lore by inquiring into the botanical relationships, the native home, and distribution of the plants we utilize.

Haska of the Hogan . . .

The Navajo youth was nearly blind, but he found beauty and happiness in his world—not from the sweeping vistas he could not see, but from trifles other men could not see.

By JOE KERLEY

HASKA, A 17 year old Navajo boy whom I had known from childhood, came into my trading post, guiding himself with a cane. His vision had been clouded since birth.

Although almost blind, he loved the outdoors. Indeed there is no real life for the Navajos except the outdoors—only the outdoors and their one room mud and log hogans.

It is a sad affliction for one of them to be deprived of sight. Often had I seen Haska as far as a mile from his hogan, tapping the ground with his stick to make sure the path was safe.

This earth, so beautiful, so many-colored, so astir with birds and waving foliage, was only dimly seen by him, and then only to the end of his cane.

In spite of his handicap he seemed extremely happy. He greeted me with a wonderful smile, the kind often seen on young children—smiles that light up your heart with a touch of heaven.

Navajos are not the coarse savages many people think them to be. Compared with other people whom I have encountered during my 70 years (25 of which were spent among the Navajos) they are in general friendly, peace-loving and intelligent. Families are closely bound together, and parents love their children.

From his brothers and sisters, Haska learned about many things he had never seen. He could describe birds, rocks, coyotes and trees.

He knew the names of colors, but only vivid lights reached his eyes and these were dim compared to what normal eyes could see.

As he sat around the hogan fire at night, his brothers and sisters would point out the red of the glowing embers and the other colors in the flaming cedar.

In those far off days when I knew this lad it would have been difficult to have placed him in a school for the

blind. And who would want to send this sensitive poetic young soul out among strangers, away from his hogan where he was so happy and so loved?

Having greeted me this day and softly held my hand for a few moments, as is the manner of all Navajos when they meet, he walked around the store, tapping with his cane to avoid the counters and showcases.

He fixed his gaze on a bright piece of red cellophane paper that was lying on the floor. He seemed surprised, as if something wonderful stood out from his shadowy world. Perhaps it had reflected the bright sun that was shining through the open door. He moved it around with the cane which was his sense of touch, indoors and out. It told him whether or not things were safe to handle. There were no customers in the store and it was quiet. Haska's careful efforts to find out what the object was that glowed on the floor seemed to add to the stillness and to the sadness of the scene.

Finally he picked up the paper and walked to the light of the door. As he held it to his eyes and gazed at the sun, an ineffable smile came over his face, and his heart cried out in wondrous joy: "Ah!, le'chigi — le'chigi!" (Ah!, it is red, it is red!)

Pictures of the Month



Desert Handout

First prize was won this month by Mrs. Al. A. Allanson of La Jolla, California, who photographed her husband in the process of feeding a coyote. The picture was taken after several days of camping in the high desert. "Although wary, the coyote responded to our patience and admiration," wrote Mrs. Allanson. Camera data: Rolleiflex camera with Tessar 3.5 lens; Panatomic X film; 1/250th second at f. 11. The photograph was made on a rainy day.

Summer Storm

Richard H. Currens of Buckeye, Arizona, took the second-prize winner near his home during what he described as the worst thunderstorm of the summer. "I was standing right beside him," wrote his wife, "and when that thunderbolt struck the ground, believe me, I left!" Camera data: 4x5 Graphic camera; Tri-X film; time exposure.



Bobby Robey on the face of the secondary Verde Antique quarry.

Where Green Marble Was Mined . . .

By EUGENE L. CONROTT
Map by Norton Allen

IN THE 1890s when the management of the old Palace Hotel in San Francisco was seeking the most attractive marble that could be found to redecorate the interior of the palatial hostelry, among the stone selected was a handsome sulphur yellow and lime green marble veined in chocolate and cream—from the Verde Antique quarry 17 miles northeast of Victorville, on California's Mojave Desert.

The old quarry, located on the treeless highlands which slope down to the Mojave River, is no longer being worked commercially, but it remains a popular hunting ground for rockhounds in quest of attractive cutting stone.

The quarry's name was derived from the ancients' term for dark green marble veined in black—Verde Antique. The Italian marble's hue is much deeper than the marble found on the California desert.

I was glad to accept Bill Harrison's invitation to accompany him and members of the Ventura Gem and Mineral Society to the quarry. Marble, because of its close-grained hardness and ability to take a beautiful polish, is much esteemed by the amateur lapidaries who make book ends, spheres, desk

Here is a field trip to a long-inactive quarry on the Mojave Desert whose beautiful yellow and green marble once graced the interior of San Francisco's famed Palace Hotel. Today, rockhounds are turning out striking pieces from this same material on their home lapidary outfits.



Rough marble specimen, top, and slabbed face showing the vein patterns. These stones are a brilliant lime green in color.

sets and similar large pieces from it. And too, this rich stone is having a revival in interior home decorating.

We met early one warm Sunday morning in April at the observation ramp just east of the Victorville Bridge spanning the Mojave River. The desert rarely has been as beautiful as it was this past spring. Generous rains turned normally straggly bushes and trees into luxuriant full-leaved plants; and wind-scattered seeds into colorful wildflowers. The Mojave River was flowing nearly double its normal volume, and as we waited for late-comers, few could take their eyes from the brown water churning down the channel lined with waxy-leaved cottonwoods.

From this site, known as the Upper Narrows, the river course makes a 38-mile bow northward and then eastward to Barstow and Daggett. The road we traveled to the quarry—Stoddard Well Road—is a direct 33-mile short-cut connecting these two points. Older maps show this partially-paved trail as the Daggett Road.

In addition to the road and well, there is a mountain and ridge immedi-

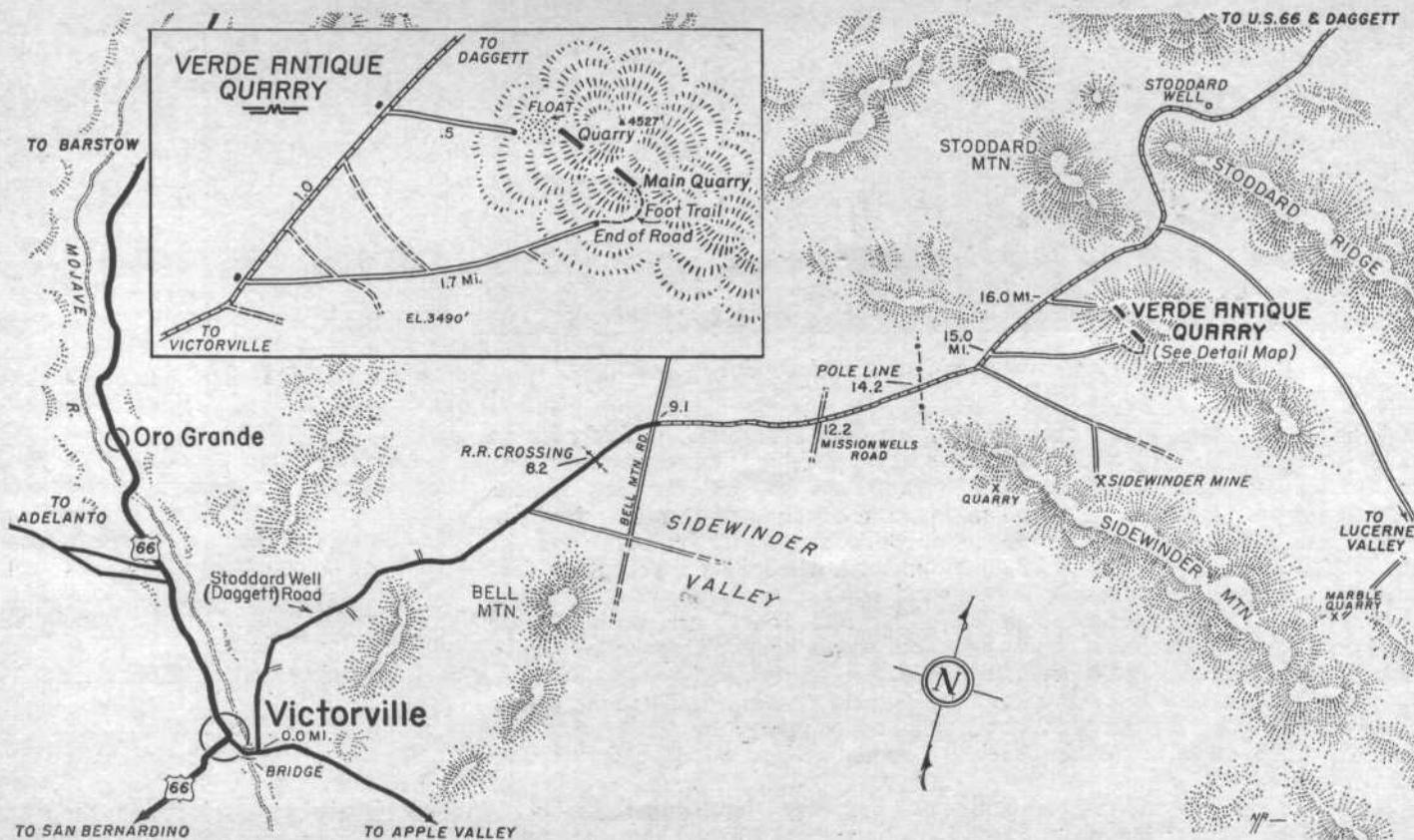


Bill Harrison and his nephew, Bobby Robey, prop up an old sled used over 50 years ago to drag the limestone and marble boulders from the dump, light scar on hill in background, to the wagon loading area.

ately north of the quarry named for Sheldon Stoddard, a San Bernardino County pioneer who came to California in 1851. For many years Stoddard carried mail and freight between San Bernardino and Salt Lake City, making 24 round-trips in all.

The field trip was led by Bill Temple, Sr., a Ventura carpenter, and his son, Bill, Jr., recently discharged from the Army and now an electronic's mechanic. The Temples come often to the desert, and they had made very thorough preparations for this outing.

The road passes through the pleasant narrow valley formed by Sidewinder Wash which drains about 50 square miles of rolling terrain. There has been much home-building development here in the past two years. Scattered about were a few Joshua



trees overlooking the thick carpet of green creosote and other smaller shrubs, and yellow goldflowers and canary-yellow desert dandelions.

After the pavement ends nine miles from the Victorville Bridge, the road passes through a narrow defile in the barren and rocky hills. It then swings in a more northerly direction. After emerging from this pass the two Verde Antique workings near the top of the 1100-foot hill jutting out of the plain immediately east of the trail, are clearly visible. Stoddard Well Road is a better than average desert route and passable to all types of vehicles.

There are several short branch trails leading to the base of the quarry hill.

ing on stone came echoing down from several places on the steep face of the hill, Bill Harrison, his 10-year-old nephew, Bobby Robey, and I made a Jeep ride southward across the talus slope of the mountain to the base of the main working.

Bill is a chemist employed for the past 10 years by the Tidewater Oil Company at Ventura. A bachelor, he was born in Nebraska 36 years ago, and studied at the University of Iowa, University of Rochester and U.C.L.A. Of medium height, stocky and with short-clipped hair, Bill's serious interests are many. Photography, television script writing and rock collecting are chief among them. And the latter is

were freighted to Victorville, placed on trains and transported down the Cajon Pass to Colton where they were sawed and polished.

Bill told me the story of this deposit. The marble was laid down as limestone in the Late Paleozoic era, presumably during the Mississippian age when a great inland sea covered vast areas of the Southwest. This was about 200,000,000 years ago—the age of amphibians and floral life. The Victorville area was the scene of much volcanic action at the close of this era, and heat and pressure from this volcanism compacted the impure limestone into marble. The impurities in the bedding gave the stone its distinctive color patterns. Heat and pressure also explain why no fossil remains are found in the metamorphized stone.

When we returned to the field camp, Ruth Parker of Ventura, a country school teacher, avid Sierra Club member, and rockhound of 20 years standing, requested Bill's services. Only a few feet off the trail she had uncovered a 300-pound chartreuse marble boulder and needed his know-how with a sledge hammer and drill to break it into pieces she could handle.

Miss Parker is an amateur botanist. Knee-deep in wildflowers, she named off two dozen different species—phacelias, blue bells, 18-inch-high golden yellow fiddleheads, the dried inflated stalks of desert trumpet, yellow mentzelia . . . The purple heads of chia (*Desert*, April, '58) were abundant, and when the summer heat has passed, those wishing to collect its cereal seeds will have a good harvest ground here.

Miss Parker's pride and joy was the discovery of a patch of delicate evening snow, a gilia, growing in a hollow on the side of the hill. The white buds were tightly closed in the bright sunlight, but at sunset they opened wide and remained so until morning, filling the air with exotic fragrance. Before extensive cultivation, miles upon miles of evening snow scented the air below Grapevine Canyon on Highway 99 near Bakersfield, still one of California's most famous wildflower areas.

The birds were very active on this desert slope, especially sparrows and rock wrens. Miss Parker laughed when she recounted how a pair of rock wrens advanced to within a few feet of her, scolding and bobbing with each hop, probably because she had been sitting near their nest.

Just before noon, Bobby and I made the tough climb up the hill's face to the secondary quarry.

The layer of verde antique atop the hill is from three to six feet in width. The quarries were driven into the side of the limestone bed and therefore



Ruth Parker is an avid amateur botanist.

The one at the bend in the road (15 miles from the Bridge) which heads to the loading area under the main working, is very rough in places. The better trail forking at 16 miles from the Bridge leads to a point under the smaller quarry. The Temples conducted us to this latter point, for it is here that more float material is available to collectors, and more protected camping sites can be found. Of course, there is no water in this area, and campers would be wise to bring their own firewood.

After the convoy was parked and the sound of prospecting picks strik-

more than a busman's holiday, for he enjoys polishing stones and making jewelry as well as searching out the remotest secrets of stones and fossils.

Bill's enthusiasm for rocks and the outdoors has spilled over onto Bobby and Bill's other nephews and nieces.

"Pretty rocks" are probably the first words they all spoke," laughed Bill.

At the loading area, connected to the main quarry by what once was a road but now a trail suitable only for foot travel, we found one of the old sleds used for hauling the boulders to wagons. From here the stones



The Temples have made many desert outings, and they have worked much verde antique marble on their lapidary outfit.

one must go sideways—not into the face of the quarries—for marble. Here the miners blasted off the overburden and threw it into the dump. The area where the cars were parked was strewn with huge limestone boulders only a few years ago. Nearly all of this easy-to-get-to material has been chipped down and carried off. Those who search for verde antique from now on are faced with a steep climb, which will greatly limit the amount of material one person can take home. A collector who enjoys hiking will find this area one well worth visiting.

When Bobby and I reached the secondary quarry, we took a long rest. It was a bright clear day and we were able to trace faint dirt roads for miles through the green desert. Immediately south of the Verde Antique hill is Sidewinder Mountain, a long rugged desert range with a great white scar high up on its flank. This is the Sidewinder Mine, one of the largest gold operations in the Victorville-Barstow region. Work began here in the 1880s and continued intermittently until 1942. In the old days the ore from the Sidewinder was shipped to Victorville for milling at a 10-stamp mill erected in 1887. The mine was then yielding \$30 in free gold to the ton of ore. A cyanide mill was built near the mine in 1928, but it has been dismantled.

On the same mountain flank, but further east, is the Three Colored Marble Quarry. This working, often confused in the old mining reports and even today with the Verde Antique, produced a stone of white irregular dolomite fragments in a green and black matrix of dolomitic limestone. As far as color is concerned, it is somewhat inferior to the Verde Antique marble. The Three Colored Quarry was worked between 1915 and 1918.

These two quarries are among half a dozen small dimension stone works in the Victorville area active a half century ago, yielding building, monumental, paving and curbing stones. Marble production declined sharply with the increased use of terra cotta in construction. Another curtailing factor was the establishment in San Francisco of mills to handle the much better grades of marble from Vermont and Italy. These stones were brought to the West Coast as ship ballast, and as such were transported more cheaply than marble from northern California quarries only 150 miles from San Francisco.

The tremendous limestone deposits throughout this area are responsible for the large-scale cement operations in Lucerne Valley, Victorville and Oro Grande. In addition, there has

been some silver, iron and a mineral filter—victorite pyrophyllite—development here.

Gertrude Temple, the field trip leader's wife, met us at the parked cars with a cool glass of lemonade. Mrs. Temple has cut and polished much verde antique, her specialty being button earrings. After slicing the material on her 14-inch slab saw, she roughs-out the desired shape on a trim saw. Next comes the shaping on a fine 220 carborundum wheel. Marble is relatively soft compared with other gem stones, and it cuts and grinds very fast. Sanding is done with a well worn 220 or 320 grit cloth—with the emphasis on "well worn" or else the material will show scratches. She finishes by polishing the piece with Linde A compound on a leather wheel. This last operation only takes two minutes.

I met many more fine people from the Ventura society that afternoon, and I was grateful for their thoughtful hospitality. There are many homes on the coast whose inhabitants share my recollection of a worthwhile and pleasant desert outing—and no doubt on their mantels or cupboards are bits of the same yellow and green marble admired in a long ago era by the patrons of the old Palace.



Just a Dusty Desert Road . . .

By MAX H. ROBINSON

"**T**'S JUST A ROAD," said I, a stranger to the beauty of the desert land, "just another road, dusty and forlorn."

And so I traveled on — under a snowy canopy of floating clouds, against a blue background, through sunny lanes of pinyon and green mesquite, and over mountain passes lined with rocks of gold and amber hue. Around the bend I saw the waterhole and the yucca — stems of creamy waxen blossoms, candles of the desert lighting all the way. And hidden there, among the cactus flowers, I could see the mariposa lily and a carpet of wild verbena.

"No life," said I, "just endless miles to cover."

Of what value was all this barren and desolate space? No tender green grass at the road's edge, no plant higher than the car's hood, no murmuring brook shaded from the sun's warm rays.

Each turn in the road was a disappointment for ahead lay more of the bleak scenery I had just passed through. A battered cabin here and there gave mute testimony to the fact that man and beast must live where there is water.

But as the days went by, I traveled on to meet the papa and mama quail and their little replicas strutting right behind; the unsophisticated roadrunner, jaywalking all around. I laughed at the shameless hussy. Cottontail

and I shunned the skunk. I heard the busybody, scolding squirrels and the gophers, living underground, creating, working, playing, like the tenants of a town.

Above me flew the circling vultures, while the jewel-like butterflies applauded the beauty of the day. Alighting here and there were the sweet-toothed wisps of feathers—the pygmy hummingbirds.

The perky blue jays told me all and more—about the robber shrike, the hungry snake, and the gay freedom-loving jack rabbits flirting everywhere. I saw the prairie dog sitting near his burrow, and caught a glimpse of the bounding deer high-tailing up the slope. I watched the darting dodging lizard, and his friends the tortoise and the toad. And in the late of evening I heard the hungry call of the lean and sly coyote.

"It's quiet here along the road," said I, a little more gently now. "No roaring, blasting, whirring—only the soft hooting of an owl and the stir of breeze at dusk; the cooing of the doves and sweet song of the mockingbird calling to its mate."

And as I traveled on, a peace came over me—a happiness I had never felt before. Looking back once more, I knew it would always be—not just a road—but a way of life for me.



Paul Jones, chairman of the Navajo Tribal Council.



J. Maurice McCabe, the Council's secretary-treasurer.

When Riches Come to the Navajo . . .

Unlike the Oklahoma Indian tribesmen of 40 years ago who splurged oil bonanza fortunes on flashy automobiles and absurd luxury items, the Navajos are being cautious and sensible with their newly acquired riches. They have not lost sight of basic objectives, and with their \$50,000,000-plus treasury hope to provide the educational and industrial facilities which will lead to a better life through economic independence for all The People.

By NORMAN B. WILTSEY

AGREAT NEW hope is sweeping the arid wind-scorched expanse of Navajoland—a hope that new-found oil riches will bail the tribe out of the grinding poverty it has endured for nearly a century under the white man's rule.

All over the far-flung reservation there is a tingle of suppressed excitement, an unmistakable feel of wondrous unknown things to come. It is a time of stress and change, a time for discarding some elements of the past, and accepting the challenge of the future.

Yet the caution born of generations of hardship cannot be wiped out in a day, and so the Navajos are in conflict with themselves. The young people eagerly and confidently look forward to the better life to come; the "Old Ones" — the long-haired elders who Indian youth has been taught by age-old tradition to respect and obey — calmly counsel: "Wait and see."

Thus, though the Navajos seem closer to a new and immeasurably fuller life than ever before in their meager existence, they are not celebrating. They remember how the

widely publicized "Navajo Uranium Bonanza" played out just when their financial independence seemed assured.

The Navajos stoically repress their jubilation lest their present prosperity become just another desert mirage. These are proud sensitive people with excellent memories for hard unpleasant facts. They recall recent bitter years when famine and disease stalked every hogan on the reservation, and the Great White Father in Washington seemed as remote and unmindful of their suffering as the clouds that floated high above the mesas. That "bad time" has passed, but The People remember. Yet, little boys look skyward and dream of becoming pilots whenever a jet plane zooms overhead; and so the bright wave of the future cannot long be denied.

The new Navajo oil fields are being developed in the Four Corners area, that vast territory of eroded rocky pinnacles, grotesquely twisted canyons,



Manuelito Begay, a Navajo Tribal Councilman and a leader from the Crownpoint area. Council is seeking long-range and permanent benefits for the tribesmen from newly-gained oil fortune.

soaring natural stone bridges, and barren flats where boundaries of Utah, Colorado, Arizona and New Mexico meet. Known to pioneers as "The Land that God Forgot," and until recently one of the largest trackless areas in the United States, the Four Corners country now is bisected with roads and studded with oil and natural gas wells.

To oil men accustomed to the level or gently rolling plains of Texas and Oklahoma, this desolate waste seemed as devoid of petroleum prospects as the moon. But geologists assured them the prospects were there. Test drillings were made in selected areas, and oil was found in paying quantity. The big companies quickly moved in and spent millions of dollars for leases, drilling and pipe lines. Industry leaders believe the new field is the most promising in the nation, with the possible exception of the Gulf Coast.

The Navajo Tribal Council, which meets regularly at Window Rock, Arizona, to administer the business affairs of the tribe, will receive thousands of dollars a day from one pipe line alone. In all, three lines are planned—one of them already completed. This is the Four Corners Pipe Line from Utah-New Mexico oil fields to Los Angeles refineries, delivering 70,000 barrels of crude oil daily.

To all this mighty flurry of activity and feverish planning for the future, the Navajos remain impassive while meticulously checking the fine print in their oil lease contracts. By mid-1957, the Tribal Council had received about \$35,000,000 in oil lease bonus money. Counting \$15,000,000 remaining from uranium lease payments, the Council treasury had a neat bank balance of \$50,000,000. Admittedly, this is a lot of money—but it adds up to a king-sized headache for Council officials

who must channel and supervise its distribution. J. Maurice McCabe, the efficient secretary-treasurer of the Navajo Tribe, called it an "awkward" amount.

"Don't misunderstand me," McCabe emphasized in an interview given to a newspaper reporter. "We're delighted to have this large amount of money, as any organization would be. The headache lies in the tremendous responsibility involved in its proper handling. Here, in the hands of this Council, lies the total capital of an entire people. It's a frightening thing to contemplate.

"We Navajos are realistic; we remember the hard past and look warily to an uncertain future. Perhaps we are too wary, but we have ample reason to be. Our uranium leases were supposed to furnish us with handsome royalties for decades to come—but already the uranium is playing out. How do we know but that the oil will also play out within a year or two? Oh, I know that the geologic forecast is excellent—but how can we be sure? The answer is that we cannot be sure. Therefore, it is obviously of the utmost importance that this present windfall be used in a manner carefully calculated to most benefit all Navajos. We cannot afford to gamble on a nebulous future.

"I have been asked by well-meaning people to explain why this vast sum of money is not distributed evenly among our needy people. To any economist the answer is perfectly simple. Spread over 80,000 people on a per capita basis, the money would pay a few grocery bills and liquidate a few debts. Then everybody would be right back where they started from; making a meager living from sheep, goats, blanket-weaving and silversmithing. Well, I believe that the Navajo people are capable of doing greater things!

"Understand, I do not advocate that Navajos give up their ancestral arts and skills; I ask simply that they add to those crafts through training and education the highly specialized skills and professions of the white man, so they can protect their rights and make a good living in this modern world. Money *per se* means little; education and training mean everything.

"Our boys and girls have herded sheep and goats for centuries; now it is time they learn to be lawyers, doctors, airplane pilots and hostesses, carpenters, electricians, machinists, nurses, stenographers, mechanics and plumbers. We desperately need technical high schools and business schools to supplement Government primary and secondary schools, and other educational facilities available to the Navajos. Trusts must be set up for



Horse-drawn wagons still are much in use on the Navajo Reservation. Milton Snow photograph.

Three young Navajo men from Kayenta come in their best finery to take part in an evening squaw dance. Milton Snow photograph.





A Navajo girl. Her generation will receive training in the white man's skills and industries. Photograph by Milton Snow.

educational, health and welfare purposes over a long-range schedule. Not a dollar must be wasted or frittered away."

Under McCabe's watchful eye, the Tribal Council carefully checks before authorizing any expenditure. Last year, \$5,000,000 was set aside as a trust fund to finance college scholarships for worthy Navajo students. Recently, \$25,000 was allotted for the purchase of eye-glasses for people unable to buy them. With the first flow of uranium dollars several years ago, the tribal officials contracted with clothing manufacturers to supply clothing for Navajo children who were not attending school because of inadequate attire. In 1956-57, \$1,000,000 was allocated for this purpose.

Despite McCabe's cool skepticism and the wait-and-see attitude of the tribal elders, it now appears certain

that oil operations on the Navajo Reservation have reached the proportions of an authentic boom. According to the United States Geological Survey, hundreds of gas and oil wells will be drilled there by the end of this year. Already about 1,200,000 acres of tribal lands have been leased to the oil companies. Individual Indians who own land outright on the reservation have leased an additional 100,000 acres, for which they received over \$2,000,000.

The commercial consequences of this cash bonanza have not been what white businessmen expected, for the lucky Navajo individuals are treating their new fortunes as security against the future, rather than as a means for reckless spending in the present. This is a disconcerting situation — especially to fast-talking car salesmen who have heard tales of the fantastic spend-

ing sprees of the Osage tribe after oil was discovered on their Oklahoma lands nearly 40 years ago. Today, the high pressure exponents of the "hard sell" look in vain for the legendary Red Man who cracked up one Cadillac against a telephone pole, stepped out of the wreckage unhurt, caught a ride to town in a Model T Ford and ordered another Cadillac — bigger and redder than the one he'd wrecked. That type of Indian disappeared when the high-tax era moved in. The oil-rich Indian of 1958 is of an entirely different breed.

Slim Whitehorse, for example, received \$200,000 for 183 acres of land. Whitehorse, a long-hair Indian, speaks no English and never had a day's schooling in his life. But Slim has immense dignity and keen native intelligence — nobody is running any tricks on him. After long and silent deliberation, he bought a new but low-priced pickup truck, household supplies for his hogan, blue jeans, cowboy boots, 10-gallon hat, and a few modest gifts for his family. Then, through an interpreter furnished by the Tribal Council, Slim arranged to have the balance of his land surveyed, marked and recorded to legally define its boundaries as protection against possible white sharpshooters. The rest of his money went into the bank.

Albert Baker, an educated Navajo who received \$90,000 for a 90-acre tract of land, came to town to buy an automobile and ran afoul of a demon young car salesman. A gentle courteous man, Albert listened patiently while the salesman enthusiastically extolled the advantages of a flashy red-and-white convertible in the \$5000 price class. When the youngster stopped for breath, Albert quietly said:

"Do you take me for a fool, young man? Do you think that I have forgotten the value of a dollar because by great good fortune I now have many dollars? No, young friend, I still remember what it was like just a few winters ago when my wife and I pawned all of our fine turquoise-and-silver jewelry at the trader's store for food. There came a time when the pinyon nuts were few, and there was only a little mutton and fry-bread left. My children could not go to school because they had no warm clothes or shoes to wear."

The Navajo paused and laid a hand on the gleaming hood of the convertible. "This car is very beautiful, but it was not made to haul sheep and wool and supplies. Young man, when I came into your place, I told you that I was looking for a good used pickup truck at a fair price. I will look at other places until I find one. Thank you, and goodbye."

LIFE ON THE DESERT



Pinyon jays taking food from the hand of the Indian's wife. Photograph by the author.

Pinyon Jays Are Funny . . .

A pleasurable incident which occurred 36 years ago is the subject of this true experience story—an afternoon spent among the pinyon pines observing the antics of a Paiute Indian's pet jays.

By LAURENCE M. HUEY

IN THE SUMMER of 1922 the pinyon pines on the northern slope of Mount Magruder in west-central Nevada had an extra heavy crop of cones which gave promise of a goodly harvest of pine nuts. About mid-July an Indian family moved in and pitched their tents near a small spring to await the harvest time. They had two teams of small horses and two

rickety wagons on which they had loaded all of their possessions, including a flock of 20 chickens. Wishing to purchase some eggs, I went to their camp a few days after they arrived.

Upon approaching their place, I was surprised to see two pinyon jays perched on top of one of the wagons. They were exceptionally tame and did not fly when I came up. My interest

waxed as I drew closer, though little did I realize that I was about to spend one of the most delightful ornithological hours of my life.

After the Indian welcomed me to his camp, I asked about the tame jays. He told me that the birds had been taken from their nest in a pine tree during the early spring, and had been kept as pets in several different localities in which the family had lived during the past three months. The birds had never been caged, in spite of the fact that roving bands of wild pinyon jays were constantly about. Oddly enough, he had no sooner said this when we heard the voices of a large flock of jays in the pines on the nearby hillside. The two pets, roaming freely about the wagons, paid no attention to their wild relatives. The wandering

flock seemed to have no enchantment great enough to lure them from the happy semi-domesticated environment.

My Indian friend went on to tell me that the birds were very mischievous and were constantly getting into trouble. As we sat near the wagon talking, one of the jays—the tamest of the two—hopped up onto the top of the Indian's hat. He brushed it off with his hand, but in the course of a few moments it was back. This time the bird performed one of its queer antics. The hat was an old one of soft felt, and constant creasing had worn an inch-long hole near the peak of the crown. Into this crack the jay thrust its beak, and spreading the mandibles

apart it opened the hole. Without removing its beak it cocked its head sideways and peered in, first with one eye and then the other. The jay then tried to reach in with its beak as far as the hole would permit. Failing to find the imaginary object of its search, the bird repeated the peering prank. This was the most amusing incident I had ever seen a wild bird perform. The Indian, observing my keen interest, offered to show me other tricks his pet jays could perform.

This time he took from his pocket a small sack of tobacco, and rolled a cigarette while the jay sat watching on the wagon wheel a foot or two away. When the cigarette was almost com-

pleted and in the sifting stage, that is when it was being held in a vertical position and the tobacco settled into an even mass by gently tapping the sides, the jay quickly jumped onto the hand that was holding the cigarette, and thrust its beak down into the open end. Spreading the mandibles apart, the paper was split and the loosened tobacco ran out. The Indian caught the tobacco in the palm of his other hand. Then the jay probed it over with its beak as if searching for food. This brought peals of laughter from both of us, and the episode was repeated for my pleasure.

Both jays took leading roles in the next trick. The Indian brought out two ears of corn and we both flipped kernels into the air for them to catch. This they did with ease by making short sallies from convenient vantage points. If the kernel was missed, a chicken snapped it up the moment it hit the ground. Very few got past the jays, however. As fast as a grain was caught, the bird would attempt to hide it by hopping around on the ground and diligently searching for a place that offered some security from possible discovery. This spot usually was under a sage bush where the bird would thrust its beak into the dead leaves and deposit the corn. Then with a deft sweep of the beak it would cover the spot with leaves or a small stick, and return for more. The chickens knew all about this trick. The jays never seemed to be able to avoid the prying eyes of some old hen, and their caches were soon despoiled. This catch, hide and scramble game was lots of fun and was enjoyed by all—especially the chickens!

The most sagacious prank on the part of the tamest jay happened as I was leaving. I purchased a dozen eggs, and had paid the Indian with several small coins. In the lot was a bright new quarter. Wishing to help me put the eggs in my hat—the only receptacle available—the Indian placed the money on the bed of a wagon. As quick as a flash the jay hopped down, picked up the quarter in its beak, and was off amid a blast of harsh words from the Indian. The coin was dropped by the jay on the far side of the camp, irretrievably lost in the sage brush.

I returned a few days later with a camera to make some pictures, but found the Indian had gone hunting. The jays would not perform well for the woman, but she got them to eat out of her hand and in this act I made the picture which accompanies this story. During my visit I asked her what they called the jays in the Paiute language, and she replied, "Ky'yah, Ky'yah—that's what he say!"

TRUE OR FALSE:

know it but yourself. However, a low grade is no disgrace if you learn something in the process. Twelve to 14 correct answers is a fair score, 15 to 17 is good, and any score over 17 is excellent. The answers are on page 36.

- 1—Rattlesnakes are most vicious when the weather is cold. True _____. False _____.
- 2—Cochise was the name of a famous Navajo chief. True _____. False _____.
- 3—The desert mesquite tree sheds its leaves in winter. True _____. False _____.
- 4—The Casa Grande ruins in Arizona are the remains of an old U. S. Army fort built to protect wagon trains from marauding Apaches. True _____. False _____.
- 5—The Seven Cities of Cibola according to legend were located in what is now Cibola Valley along the Colorado River in Arizona. True _____. False _____.
- 6—Desert lilies grow from bulbs. True _____. False _____.
- 7—Ballarat is a famous ghost town in California. True _____. False _____.
- 8—Some of the Pueblo Indians of the Southwest still use a stone metate for grinding corn. True _____. False _____.
- 9—Bright Angel is the name given to a trail leading to the summit of Mt. Whitney, highest peak in United States. True _____. False _____.
- 10—Chuckawalla lizards were eaten by desert Indians. True _____. False _____.
- 11—Carnotite, the ore from which comes uranium, radium and vanadium, is yellow. True _____. False _____.
- 12—Mishongovi is the name of a town in the Hopi reservation. True _____. False _____.
- 13—Among the peaks visible from the Southern California desert San Gorgonio is the highest. True _____. False _____.
- 14—Sport fishing in the Little Colorado River is a thriving industry at Cameron, Arizona. True _____. False _____.
- 15—The flood water which poured out of the Colorado River in 1905-6-7 and formed Salton Sea reached United States by way of Mexico. True _____. False _____.
- 16—The Bill Williams River of Arizona flows into Lake Mead. True _____. False _____.
- 17—Window Rock, tribal headquarters for the Navajo, is in New Mexico. True _____. False _____.
- 18—The Ouray Indian reservation is in Nevada. True _____. False _____.
- 19—Sand paintings are used in Navajo healing ceremonies. True _____. False _____.
- 20—Roosevelt dam is in the Gila River of Arizona. True _____. False _____.

Children of the Sky Dwellers...

Caught between two worlds—the white man's with its gas cooking stove and all important weekly pay check, and the orderly integrated ways of their forefathers—the Acomas struggle forward, making their adjustments along the way. While most of these pueblo people live in nearby farm communities, the roots of tribal tradition lie deep within the great rock citadel upon which their way of life was sustained for centuries.

By TRUDY ALFORD
Map by Norton Allen

SEEING THE Pueblo Indians of Acoma, New Mexico, on a 15 minute television program stirred my curiosity. Was it possible in this Atomic Age for them to maintain their ancient way of life as portrayed on the television screen? On the flat top of their precipitous rock, 357 feet above the surrounding mesa, women were shown grinding corn and baking bread in outdoor ovens, men were playing the hockey-like Stick Game, and other men and women in full ceremonial dress were performing time-honored dances. All these activities were taking place 12 miles from the nearest telephone, electricity or running water, in the 800-year-old village of Acoma in the heart of the Southwest pueblo country.

A few days later I made the 58 mile drive from Albuquerque west on U.S. Highway 66 to Acomita (little Acoma) just south of the highway. While Old Acoma, a dozen miles south of Acomita, is never completely deserted, it is only during ceremonials that the Acoma people are found in considerable numbers at the "Sky City." Seventy-five years ago the danger of marauding Apache and Navajo warriors passed, and the people of Acoma found it safe to leave their fortress. Gradually the two farming villages, Acomita and McCarty's, grew until today, 1923 Acomas live there.

The governor's house is in the older section of Acomita, across the railroad tracks. Built high on a craggy hill, his home looks down on the fertile narrow acres of the San Jose River Valley, and the modest adobe homes of his tribal brothers.

Governor Jose Chino is a man of 61 with a friendly deliberate manner. His dark face is intelligent; his body characteristically short and well-muscled. He wore informal western dress



Acoma girl. Photo by Frashers of Pomona.

— slacks, a long-sleeved shirt and sturdy shoes.

Inside the governor's three-room home the adobe walls were neatly whitewashed and linoleum covered the hard-packed dirt floor. To the right of the kitchen door draped a freshly-hung sheepskin. We sat down on wood chairs at the kitchen table while two of his daughter's children, part of his household of seven, solemnly watched and listened from a corner.

The basis of the pueblo's economy is still the land, even though only a very small percentage or about 1500 acres of the Acomas' 248,200 acres are irrigable, the governor told me. "We raise corn, beans, chile, squash,

tomatoes, fruit, wheat, alfalfa and oats. We market very little, as we need everything for ourselves to eat," Chino said. Farming methods still are those of yesteryear with the horse and plow predominating.

In addition to raising these crops, the Acomas have 7000 sheep and 800 cattle—"many fewer than the 106,000 head of livestock that roamed our land 10 years ago," the governor observed. "But for the first time in many years we have had good rain. Everything should be better this year," he added hopefully.

In winter the men move the herds across the grazing lands, and when summer weather issues a warm invitation, the women and children of



The problem of enough water is an eternal one with these farmers of the arid plains. Photo courtesy New Mexico State Tourist Bureau.

Acoma follow the men to the sheep and cattle camps, and set up summer quarters.

Formal structure of the tribe's government consists of a governor and his aides—first lieutenant, second lieutenant, sheriff, first sheriff, second sheriff, third sheriff, interpreter and secretary. There is no jail at Acomita or McCarty's. When asked why they needed so many sheriffs, the governor replied, "When there is a little noise Saturday night, what can one sheriff do?"

Once a year each of the state's autonomous pueblos elects its officers, makes its laws, and sets up its court, subject to general supervision. Justice is pronounced on the local level after a council hears both sides. Offenders are fined sheep, cattle, even a car or pick-up truck. The governor told me one man recently was penalized 20 sheep, and another his truck, but there was reluctance to discuss the issues involved. Major crimes come under the jurisdiction of the Federal Courts, for the Acomas are wards of the Federal Government.

The governor is a member of the All Pueblo Council and each week makes one or more trips to Albuquerque to attend conferences on subjects ranging from more irrigation water to the sale of tribal sheep. So occupied is he with pueblo business that rarely does he have time to care for his own crops. "That's okey," he smiled. "My family or neighbors take care of it." Being mentor, ambassador, monitor, consultant, adviser and judge for his people sounded to me as if it could be more than a full time job.

Leaders of Acoma acknowledge that individual as well as pueblo progress is dependent on education. Children

of Acoma start school when they are six years old. These beginners spend the first year receiving orientation, and a major effort is made by the teachers to make the English language a comfortable and elastic medium of communication.

After seven years of elementary work, the next step is school in Grants or Albuquerque. At the Indian High School in Albuquerque an accredited four year course similar to that of most other public high schools is offered. In addition, girls receive intensive home and child care study. Boys do exploratory work in the eighth and ninth grades, and have a wide choice of vocational courses to specialize in during their last three years, including field and sheet metal, electricity, machine shop, service station, auto mechanics, agriculture and baking. Last year 40 boys and girls from Southwestern pueblos were in colleges and advanced schools. One was a young man from Acoma studying at Haskell Institute at Lawrence, Kansas, and two Acoma girls were training to be nurses at an Albuquerque hospital.

Once a year the governor and his aides visit the schools to address the children. Fortunately, my visit to Acomita fell on this day. I eagerly accepted Governor Chino's invitation to visit the school with him. The children from grades one to four carried their chairs to the room that the sixth and seventh grades share. At this assembly were 137 pupils, four teachers, the governor, the second lieutenant governor, the sheriff, and me—the only visitor. In his talk the governor said, "Don't play hooky. Get the habit of study. Listen to teacher. Don't be bashful to talk English."

However, the second lieutenant governor and sheriff followed with speeches in the Acoma language. Later Principal Reba Perry, who has been with the children of Acoma a devoted 14 years, explained that the governor's aides had not spoken English because, "They know English, but perhaps were not quite as fluent as the governor."

The smaller village of McCarty's has a similar educational plant with an enrollment of 106 in the six-grade four-room school house, a shingle and pitch-roofed white government regulation building which stands with pale-faced incongruity among the simple sunbaked adobe homes.

When the teenagers are away at school they behave much like any other American school children, but when they return to Acoma they quickly fall into the traditional pattern. It would be difficult to find a more sociable people. Chief form of recreation seems to be conversation among themselves, and they have a delicate sense of humor. There are about 24 television sets and many radios in the two villages. A 4-H Club at Acomita boasts 20 members.

The Sky People are fortunate to have the services of Public Health Nurse Ida Ball who lives at Acomita. The medical theory followed here is that early diagnosis is good preventive medicine, a practice which contributes greatly to the pueblo's high level of good health. Once a week Dr. Robert Setzler, officer in charge of the pueblo field program, makes the trip from Albuquerque, and a clinic is held. Each year sees an increase in the number of babies born at the County Indian Hospital in Albuquerque, and a reduction in the infant mortality rate.

The people of Acoma are very comfortable in American dress, and only at ceremonial functions do mantas, leg wrappings and bright turquoise and silver jewelry make their appearance. This jewelry, incidentally, is not made by the Sky People, but generally obtained from their neighbors, the Zunis.

There are two political factions at Acoma as there are in most pueblos today—young progressives and elder conservatives. Between the two, however, a common meeting ground usually is found.

There was a sharp difference of opinion in Acomaland regarding a national network's bid to televise pueblo life. I discussed this incident with Henry Chavez, the lieutenant governor, who was busily whitewashing the inside walls of his house.

"It was like any other big question that comes up," he said. "We had a meeting in the Council Hall. About 150 men and women came, and every-



Ancestral home of the Acomas is on top of this fortress-like rock abruptly rising 357 feet out of the desert floor. Monarch Airlines photo.

one had a chance to speak. At the beginning, most of the elders didn't like the idea."

"Why not?" I asked.

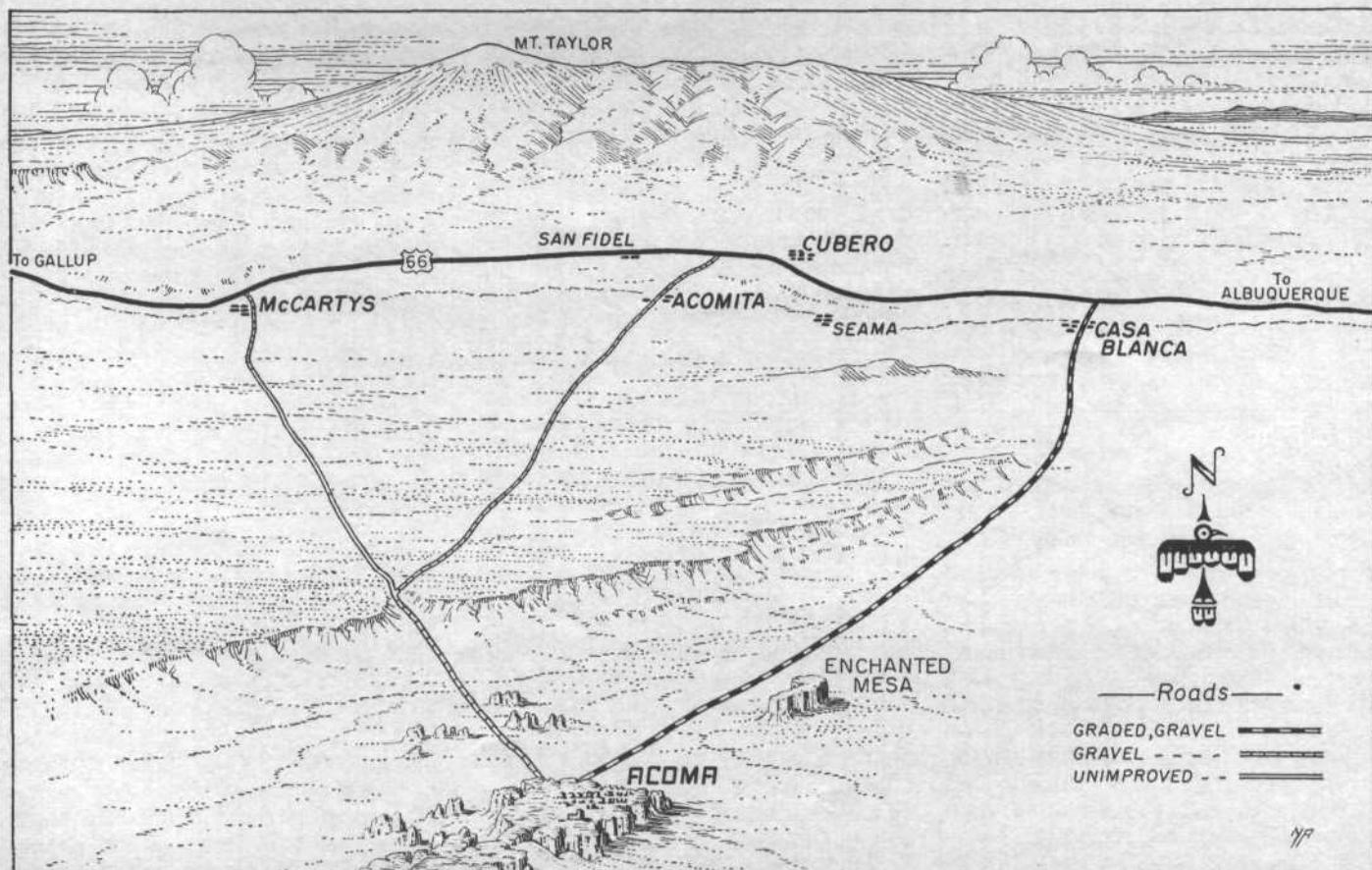
"Some thought the electricity might hurt the cattle. Others thought if people saw Acoma on television, they

would no longer come to see us in person. After two or three days of council everyone went along with the majority opinion—to allow the show to take place."

Chavez has a job in the Anaconda Copper uranium fields. "Almost every

family here in Acoma has one member who goes to Grants or Albuquerque to earn cash. It takes cash nowadays!" he declared.

While pottery making has never been considered a major art with the women of Acoma, it is now almost at





*Acoma scene in 1904—it looks much the same today. Photo by Mode Wineman,
courtesy Dept. of Interior.*

a standstill. Only a few older women make enough pottery for their summer stalls on the highway, and while most of the younger women know how to make pottery, they do little practicing. Details of the dyes — where they are gathered, how they are ground and mixed—and countless other age-old secrets soon may be lost forever.

But, women of Acoma have many other activities to keep them busy. They help with the harvest, and preserve several hundred quarts of food against the chill winter's hunger. They are tender patient mothers and excellent housekeepers. One young matron, the mother of eight, bakes bread for her family every week in her outdoor oven. More modern conveniences are appearing regularly, and many homes now have running water and gas stoves.

The Acomas are quite conversant about their Catholic religion. Visitors are most welcome when certain feasts are celebrated. Saint Stephen's Day (their patron saint), September 2; All Souls Day, November 1; and Christmas are the special occasions on the Acoma calendar when dancing and feasting usually take place in addition to the celebration of the mass.

The Acomas' ancestral home on top

of what the Spanish Conquistadores called *El Penol*—The Great Rock—is the setting for these festivities. It is reached from Highway 66 by driving 14 miles south on State Highway 23. On approaching Sky City, the penetrating solitude of the desert, with its cacti, wind-swept junipers and the riotous brilliance of the sun, make more credible the Acoma legends that personify these natural wonders. The ascent to Sky City is made either by the 50-year-old "new" Sand Trail, or by the ancient Toe and Finger Trail. On top, the centuries dissolve among ancient adobe and rock homes arranged in two and three story tiers around the rocky plaza. There are no shrubs or trees here—nothing but flat rough rock and thin layers of pulverized sand.

The most impressive building on the crag is the church of San Esteban Re. Built in 1629, it is the largest mission church in the Southwest. (An extra 50c admission after the initial dollar entrance fee to the pueblo, is charged to enter the church. It costs another 50c if photographs are taken.) In some places the walls are nine and a half feet thick in this 150-foot long and 40-foot wide building. All the

material for constructing this church was carried to the top on the backs of the proud people of Acoma.

Sky City is a venerated shrine. Here the Acomas live again the ways of their forefathers. Four war chiefs are elected each year to guard ancient secrets, and they never leave their post for the duration of their office. It has been said that the personality of an Acoma changes when he is On Top. A white rancher told me that one young man who worked with him for six years and who was one of the most friendly and open persons he had ever met, became very reserved and reluctant to answer any questions concerning religious or other customs when he was On Top.

There can be no doubt that white man's culture is making inroads in the Acoma society, but who can say which way of life will be better for the Indian in the long run? History that is yet to be written alone holds the answer.

As I left, the streets were mysterious and silent. Only the soft whisper of the rising wind, breathing a halo of the infinite peace of the desert around the twin spires of San Esteban Re, broke the silence.

Here and There on the Desert . . .

ARIZONA

Reservation Road Contract . . .

KAYENTA—The Interior Department awarded a \$624,782 contract for construction of the first paved road through Monument Valley—replacing the old gravel road which has been a nightmare to motorists who desired to visit the scenic area. The contract covers construction and bituminous surfacing of a 19.2-mile section of road between Kayenta and Utah State Highway 47 at the Utah line. The road will provide an all-weather bus route to enlarge school facilities at Kayenta to accommodate about 400 Navajo children in grades one through eight.

Navajos Regulate Unions . . .

WINDOW ROCK — The Navajo Tribal Council announced rules under which union representatives organizing workers on the reservation can operate. The organizers must secure permits before entering the reservation; coercion will not be tolerated; representative of the Council's legal department must sit in on all solicitations of union members; and meetings for organization purposes on the reservation are prohibited.—*Phoenix Gazette*

Historical Markers Suggested . . .

PHOENIX—The Arizona Development Board recently completed the historical background and suggested text for 100 markers to be placed along highways in the state. The Development Board began the program more than a year ago by installing one marker in each county in the state.

Gold to Lure Tourists . . .

PREScott — The gold-bearing sands of Lynx Creek have been opened to a public gold rush, in the latest tourist-attracting gimmick of the Prescott Chamber of Commerce. Capitalizing on the diggings, the chamber has leased the mineral rights to more than four miles of the creek, and invited the public to start panning. The Lynx Creek claims were discovered in 1863.—*Phoenix Gazette*

Arizona Seeks Title to Island . . .

YUMA—State officials said they were determined to obtain clear title to the disputed 7000-acre island on the Colorado River between Yuma and Laguna Dam. Ownership of the land in question will be decided by the Arizona and California border commissions which have met several times as of late to fix a permanent boundary between the two states along the shifting Colorado.—*Yuma Sun*

Lake Mead Improvements Slated . . .

KINGMAN — The National Park Service unveiled a 10-year development program for the Lake Mead National Recreation Area which includes a four point improvement scheme for the Arizona side of the lake. Developments would include (1) a new road off of the Pierce's Ferry road to the Sandbar area below Iceberg Canyon and the establishment of a concession camp ground and all facilities; (2) road alignment work and new facilities at Walapai Wash and paving of the Pierce's Ferry road to the county line; (3) construction project on the Kingman Wash and paving of a scenic road with a spur to the lake; and (4) improvement of road facilities into the Cottonwood Valley area on Lake Mohave and establishment of a concession camp ground and other facilities.—*Mohave Miner*

Poor Planning Charged . . .

PAGE—The House of Representative's appropriations committee placed a \$12,000,000 ceiling on the cost of the townsite and service facilities at Glen Canyon Dam. The committee said the Federal Reclamation Bureau gave its town planners and architects a field day in connection with recommendations for the Glen Canyon and Flaming Gorge Dams. "In addition," the committee said, "a lack of firm and careful planning for the proposed damsites has been evident . . ." In a similar action, the committee placed a \$5,000,000 ceiling on the Flaming Gorge townsite.—*Phoenix Gazette*

CALIFORNIA

Indian Land Sales Clarified . . .

WASHINGTON, D. C.—The U. S. Bureau of Indian Affairs ruled that Indians who hold land title individually will be allowed full rights of sale or transfer, but re-emphasized its position assuming trust responsibilities for the tribes. The new policy is "based on full recognition of the individual Indian property rights which are unquestionably involved," the bureau said. "We are fully aware of our trust responsibilities for tribal property and we recognize that many of the tribal organizations have a legitimate and valid interest in acquiring individual Indian properties that may be offered for sale," it added. The tribal organizations will be notified of all authorized sales by individual tribesmen, and the tribes will be given a chance to match the high bid for the land.—*Hemet News*

Corvina Thrive in Salton Sea . . .

SALTON SEA—Salton Sea's corvina fish population is estimated at 1,000,000 by the Department of Fish and Game. All the corvina stem from 21,189 transplanted from the Gulf of California from 1950 through 1956. So far, relatively few fish have been caught, although Department of Fish and Game netting programs reveal that the fish are averaging about three pounds in their third year and 12 pounds in their fourth. There is no closed season on corvina fishing at Salton Sea, and the bag and possession limit is six fish.—*Indio Date Palm*

Group Fights Open Shafts . . .

BORON—State and county officials have been contacted by the Desert Pioneer Society in Edgemont Acres which seeks action in closing open mine shafts and deep wells in the Boron area. Members of the Society have adopted the closing of dangerous shafts and wells as their project for the year.—*Boron Enterprise*

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ARE YOU interested in prospecting for minerals, or rockhunting? Write for literature to United Prospectors, 701½ E. Edgeware, Los Angeles, 26, California.

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SALTON SEA. See us for acreage large and small. Also homesites and business sites. Pon & Co., 711 N. Azusa Avenue, Azusa, California.

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Gila Monsters Reported . . .

BARSTOW — Reports that gila monsters are invading California again were heard recently when Barstow-area residents told of the sighting of two large lizards with blunt tails and beaded skin which closely resembled poisonous gila monsters native to southern Arizona. The reptiles have never been found on the California side of the Colorado River.—*Barstow Printer-Review*

* * *

Salton Sea Contamination . . .

SALTON SEA STATE PARK — Waters around the Salton Sea State Park are free from any contamination harmful to humans, Dr. Malcolm H. Merrill, state health director declared. Merrill said contamination making Salton Sea water unfit for recreational use exists at three locations: within two miles of the mouths of the New and the Alamo rivers, both at the extreme south end of the Salton Sea, and within one mile of the mouth of the White-water River in the northwest end of the lake. The Imperial Irrigation District said the water surface level of the sea dropped .15 of a foot during May. Present level is 233.75 feet below sea level.—*Calexico Chronicle*

* * *

Petroglyph Protection Studied . . .

BISHOP — State Senator Charles Brown outlined two possible plans for protection of the petroglyphs in the Eastern Sierra area. The quickest method would be a petition by local residents to the State Division of Beaches and Parks to provide plaques which would outline the importance of the petroglyph areas, and state that the ancient Indian writings were protected by law. Each separate petroglyph location also would be fenced. The other plan would be the establishment of a state park to include the petroglyph locations on the volcanic tablelands near Bishop. — *Nevada State Journal*

NEVADA

Hoover Dam Nears Capacity . . .

HOOVER DAM — Hoover Dam water may reach a near-capacity level this August. By the first of June, Lake Mead's level stood at 21,160,000 acre-feet, with two months of peak flow still expected. Spill level of the lake, which has not overflowed since 1941, is about 27,000,000 acre-feet. The above average snow-melt inflow to Lake Mead was expected to permit Hoover Dam power plant to generate electricity at 100 percent of its firm output to supply some Arizona, Nevada and California users for the next 12 months.—*Phoenix Gazette*

• • • Antelope Count Increases . . .

BLACK ROCK DISTRICT — Although fewer antelope were counted in some areas by Nevada Fish and Game Commission Black Rock District personnel, the overall count tended to show a slight increase over last year. Greatest gains were noted in the Owyhee Desert country. Antelope population in Nevada over the past few years has remained static or shown some decline.—*Humboldt Star*

• • • Javelina Released . . .

LAS VEGAS—Twenty-five javelina were released into the McCullough Mountains of Clark County, the third plant in this area since 1956. Fish and Game officials hope to establish a hunttable population of wild pigs in Clark County, but indicate that it will take some time to determine whether the javelina will adapt to their new home.

• • • Navy Receives Land . . .

LOELOCK — Formal withdrawal of 791,106 acres of northern Nevada land recently was made by the Navy, following receipt of the Department of Interior's approval. The land will be used for an aerial gunnery range. Included is most of the land used by the Navy for gunnery practice in Pershing County, during the war, along with 270,000 acres of the Black Rock Desert in Humboldt County. Originally the Navy sought 3,000,000 acres in this area.—*Lovelock Review-Miner*

• • • Silver Monument Approved . . .

VIRGINIA CITY — Design has been approved for a monument commemorating the 1859 discovery of silver on the Comstock Lode. Jack Cooney of Carson City drew the plans for the monument, and he has been commissioned to proceed with its erection on a plot of ground in Virginia City. The monument will be a nine-foot-high truncated pyramid, set on a rectangular stone base and protected by a concrete curb and stainless steel guard rail.—*Territorial Enterprise*

Nevada Growth Predicted . . .

CARSON CITY — With an ample supply of Colorado River water, the state of Nevada will grow to 1,300,000 persons and Clark County to 600,000 within the next 42 years. This was the prediction of a New York economist testifying in the lengthy Colorado River suit. Nevada's growth rate—66 percent since 1950—is the fastest in the Union.—*Nevada State Journal*

• • • NEW MEXICO

Tourist Influx Expected . . .

SANTA FE—State Tourist Director Merle Tucker predicts close to 20,000,000 out-of-state visitors will come to New Mexico each year by 1968. "The tourist industry will continue to rank as one of the most important elements in the state's economy, accounting for more than \$350,000,000 per year in cash income," Tucker said. He warned, however, that New Mexico will face increasing competition from other tourist-conscious areas, and he called for more concerted efforts by the state to maintain its position as a popular vacation destination. Tucker estimates that the number of motels and resorts in New Mexico will nearly double in the next 10 years. He envisions the construction of a number of "ranch motels" where families can enjoy the convenience of a motel and the novelty of trail rides on horseback. Tucker also predicted increasing pressure on state and Federal governments to develop more forest recreation areas to ease the overcrowding of the existing ones.

• • • Visitor Center Planned . . .

FORT UNION — A \$71,800 contract for construction of a visitor center and utility building has been awarded at Fort Union National Monument. Each building will be a one story masonry block structure in territorial style with red brick cornices. Most of the visitor center's floor area will be used for museum exhibits which will tell the story of the historic fort and Southwestern frontier days.—*New Mexican*

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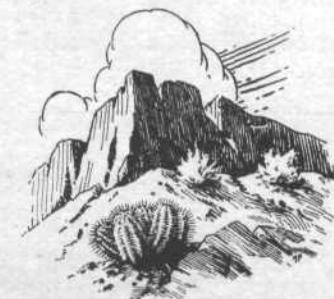
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OR AT YOUR NEWSDEALER

Navajo Dam Request Granted . . .

WASHINGTON, D.C.—The House appropriations committee awarded the full request of \$7,000,000 for the Navajo Dam. Other New Mexico Federal public works projects approved for fiscal year 1959 were: Abiquiu reservoir, \$1,250,000; Sandia flood control project, \$775,000; Los Esteros-Alamogordo reservoirs, \$90,000; and Middle Rio Grande reclamation project, \$3,628,000.—*New Mexican*



Eighteen-year-old Everett Ruess dreamed of a wild carefree life in the far places of the earth where, unfettered by the petty restrictions of civilization, he could explore the unknown wilderness and paint and write as he roamed.

In 1934 Everett entered the canyon wilderness along the Colorado River, searching for the "beauty beyond all power to convey" that he knew awaited him in the colorful desert land.

He never returned from that trip.

His burros and pack saddles were found by searching parties three months later—but no clue has ever disclosed the fate of this young artist-explorer.

From that fateful journey and earlier treks has come a compilation of his letters, stories, wood cuts, drawings and photographs, first published by Desert Magazine Press in 1940, but as vivid and alive with the wonder and enthusiasm of youth today as they were in 1934—and as they will be in 1994—

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CALIFORNIA

Billboard Troubles Seen . . .

SANTA FE — A complex road ahead has been predicted for billboard control in New Mexico along the new interstate highway system. Chief State Highway Engineer L. D. Wilson made the forecast after terming Federal highway legislation dealing with billboards "confusing." The new act sets up conditions for control of billboards and provides bonuses to states which conform with controls over billboards within 660 feet on either side of interstate highways. The bonus amounts to one-half of one percent of the amount of Federal funds available on a project.—*New Mexican*

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Entries for the August contest must be sent to the Desert Magazine office, Palm Desert, California, and postmarked not later than August 18. Winning prints will appear in the October issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints must be black and white, 5x7 or larger, on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—Entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

UTAH

Poison Weed Being Sought . . .

LOGAN—A poisonous weed suspected of causing a weird cyclopia type of deformity among lambs born in some western sheep-growing areas will be the object of a search this summer in the Boise National Forest by scientists. So far the deformity has been found only in lambs born in certain areas of Idaho and Nevada, and the scientists believe it is caused by a poison ingested by the mother which causes defect of the unborn animal.—*Salt Lake Tribune*

* * *

Low Bid for Flaming Gorge . . .

MANILA — Arch Dam Constructors of Omaha, Nebraska, a joint venture firm, was apparent low bidder for the prime contract to build Flaming Gorge Dam. The firm's bid was \$29,602,497, some 12 percent above the Federal engineers' estimate of \$25,889,667. Bids for the prime contract ranged as high as \$50,000,000. Seventh highest concrete dam in the U.S., Flaming Gorge will harness the Green River for flood control, power and reclamation.—*Salt Lake Tribune*

Land Transfer Negotiations . . .

SAN JUAN COUNTY — The Interior Department has given its approval to Federal legislation which would give the Navajo Indians 53,000 acres of grazing land in the McCracken Mesa area of Utah's San Juan County in exchange for their Utah-Arizona lands which will be flooded by the Glen Canyon Dam. Meanwhile Utah state and Federal officials are meeting with Navajo Tribal Council representatives in an attempt to work out some of the proposed transfer's details. The Interior Department noted that since the coming of the white man the McCracken Mesa region has been an area of friction between white and Indian.—*Salt Lake Tribune*

* * *

Aerial Survey for Highway . . .

COVE FORT — The Utah State Road Commission has approved expenditure of \$40,000 to complete an aerial survey of the Denver to Cove Fort route. The work will be done preparatory to ground surveys and actual alignment of the new road. Controversy concerning the construction of this highway arose on several occasions because this route was approved after the original system of Federal highways was set up, and consequently no funds were provided for. This is the reason construction has been delayed, road officials said. — *Emery County Progress*

* * *

"Dutch John" Now Official . . .

DUTCH JOHN—The name "Dutch John" has been given the construction camp and town being built at the site of Flaming Gorge Dam in extreme northeastern Utah. Dutch John Flats is the name locally given to the area of the townsite, and was derived from "Dutch John" Hanselena, a horse trader and miner originally from Schleswig, Prussia, who settled along the Green River in Red Canyon in the early 1870s. "We chose Dutch John as the name for this new town," said Commissioner of Reclamation Dexheimer, "because it is descriptive as to location, is appropriate as to historic origin, and has the unique western flavor found in many other reclamation names." All Bureau of Reclamation personnel and equipment have been moved from Vernal to Dutch John.—*Green River Star*

* * *

Visitor Center Dedicated . . .

DINOSAUR NATIONAL MONUMENT—The new and unique visitor center, constructed to protect and display the dinosaur quarry within the Utah portion of Dinosaur National Monument, was dedicated on June 1.

MINES and MINING

VALID TRADEMARK EVOLVES INTO COMMON MINERAL NAME

The American Gilsonite Company, an affiliate owned by Standard Oil Company of California and the Barber Oil Corporation, is the first large-scale privately financed project in the United States to produce conventional petroleum products from a raw material other than crude oil. This material is Gilsonite®, a black solid hydrocarbon related to both crude oil and asphalt which is being mined in the Utah-Colorado border country.

Gilsonite was registered as a trademark for asphaltum by the Gilson Asphaltum Company of St. Louis, Missouri, in 1895. This trademark was assigned to the Barber Asphalt Paving Company, and later to its successors. Though Gilsonite originally may have been a sound valid trademark, it appears that over the years the textbook writers and the public have gradually come to convert it to a common name for the mineral, reports the California Research Corporation, a Standard Oil Company subsidiary.

The record indicates that at the time Gilsonite was adopted as a trademark for asphaltum, Gilsonite was not the common name of a natural object—the common name then probably being "Uintaite."

Grants, New Mexico . . .

Gordon Weller, executive secretary of the Uranium Institute of America, warned U-industry leaders that new markets must be sought for the mineral. Conditions in the industry are changing, he said. Possibilities of developing European and South American markets for refined uranium products are being explored. Weller expressed confidence in the future of the industry.—*Grants Beacon*

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Bluff, Utah . . .

Carter Oil Company apparently has made a commercial discovery of oil in the Gothic area of Utah's Paradox Basin, four-and-a-half miles southeast of Bluff. The Standard Oil Company of New Jersey affiliate recovered 685 feet of clean oil of 40-plus degree gravity (quality) in a test of the Paradox formation between 5600 and 6600 feet.—*Salt Lake Tribune*

San Francisco . . .

The 1958 mining show of the American Mining Congress is scheduled for September 22-25 at San Francisco. The four-day meeting will utilize facilities of both the Civic Center Exhibit Hall and the Civic Auditorium.—*Salt Lake Tribune*

Arrolime, Nevada . . .

United States Lime Products Corporation, a subsidiary of The Flintkote Company, opened a new \$2,000,000 manufacturing plant in Arrolime, 19 miles northeast of Las Vegas. The Arrolime unit expands the number of Flintkote's international operations to 55 plants. Begun in July, 1957, the modern lime calcining plant is expected to have a production capacity in excess of 400 tons of lime products daily. The plant is situated on the main line of the Union Pacific Railroad adjacent to U. S. Highway 91. The company is obtaining its raw material, limestone, from quarries located in Arrolime and Sloan, Nevada; Nelson, Arizona; and Sonora and Columbia, California.—*Eureka Sentinel*

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| "Popular Prospecting" by H. C. Dako. | 2.00 |
| "Uranium, Where It Is and How to Find It" by Proctor and Hyatt. | 2.50 |
| "Minerals for Atomic Energy" by Nininger. | 7.50 |
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Panamint Valley, California . . .

A Federal jury returned a verdict of \$18,000 in favor of Hogan Johnson and John Johnson, both of Barstow, and against the United States as the fair market value of mining equipment and buildings destroyed since September, 1943, when the government took possession of a gold mine and six mining claims. The suit arose out of the government's condemnation action



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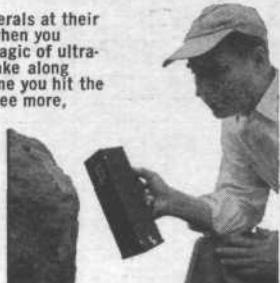
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for the use and occupancy of six mining claims belonging to the Johnson brothers near the Randsburg Wash in Panamint Valley. The claims are a part of the 177,000-acre Mojave "B" Gunnery Range. During the government's occupancy, the buildings and equipment were destroyed. In a companion case, an 83-year-old widow was awarded a judgment of \$15,000 for the destruction by the government of buildings and a cyanide mill on the east edge of Searles Lake. — *Indian Wells Valley Independent*

ton — has been found in the lower workings of the old Yuba Mine, first operated in the 1870s. A firm known as the LSZ Corporation has developed the sector during the past year, and is now producing ore. The Yuba Mine was worked intermittently from 1872 to 1900. It caved-in shortly before the turn of the century. — *Nevada State Journal*

• • •

Victorville, California . . .

Portland Cement Company's "bag house" cement control experiment was hailed as 100 percent effective. The bag house checks total output of big kilns, and also replaces huge brick smoke stacks belching dust, steam and smoke. About 600 pounds of water vapor per minute can be absorbed by the experimental bag house. All dust is eliminated and solids are returned to the kilns. Dust has plagued the cement industry for nearly a century. Wide national attention to air pollution problems accentuated the need for an effective control method. — *Victor Press*

• • •

Pioche, Nevada . . .

The discovery of a rich vein of lead-silver ore has given the old mining camp of Pioche new hope for a revival of its boom days. High grade ore—some of it valued as high as \$200 per

• • •

The first U.S. uranium producer to aim exclusively at the commercial market plans to build a mill in Grants—the sixth for that area. According to officials of Thor-Westcliffe Development Company, that concern will sell refined uranium products to the foreign market. "Western Europe," said one official, "is years ahead of the U.S. in preparing for the change-over to atomic-powered electric generating plants because of its fossil fuel scarcity." — *Grants Beacon*

• • •

TRUE OR FALSE ANSWERS

Questions are on page 26

- 1—False. Rattlers are sluggish in cold weather.
- 2—False. Cochise was an Apache.
- 3—True.
- 4—False. Casa Grande ruins are of prehistoric Indian origin.
- 5—False. According to legend the Seven Cities were in New Mexico.
- 6—True. 7—True. 8—True.
- 9—False. Bright Angel Trail leads to the bottom of Grand Canyon.
- 10—True. 11—True. 12—True.
- 13—True.
- 14—False. The Little Colorado is mostly dry.
- 15—True.
- 16—False. The Bill Williams flows into Lake Havasu.
- 17—False. Window Rock is in Arizona.
- 18—False. Ouray reservation is in Utah.
- 19—True.
- 20—False. Roosevelt dam is in the Salt River.

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GEMS AND MINERALS

Tumbling Technique Improved By Noting How Nature Does It

The original tumbler on earth is the action of rivers and oceans, and all man-made tumblers are but various mechanical means of duplicating Nature's technique. It is possible to gain many ideas from Nature in this respect. Here are some reminders of Nature's methods which may help you improve your work:

Nature uses plenty of space to grind rocks, so don't fill your tumbler too full. Half to three-quarters full is sufficient.

Nature tumbles all sizes together. So can you. Only the size of your machine will

limit the size of the material that can be tumbled.

Everything in Nature's river gets tumbled, so don't use wood block, leather scraps or sawdust as a tumbling aid. By so doing, you only reduce the amount of rocks that can be tumbled.

Don't use too much grit to a load, nor make the grinding mixture too stiff. A slow moving muddy river can not grind rocks.

Be very clean—as are Nature's rivers. Be sure to use plenty of clear water to wash the rocks before changing grit or polish.

The most important lesson we can learn from Nature is to use plenty of time. Be patient. — J. C. McClure in the Miami, Florida, Mineral and Gem Society's *Chips and Facets*

LABELING IMPORTANT PART OF MINERAL COLLECTION

Labeling specimens is a problem each collector must work out for himself, but one of the best methods known is to paint a small drop of white enamel on the most undesirable spot on the specimen, just large enough to write a number in India ink to identify that particular specimen. When the ink is dry, cover with two coats of metallic lacquer, and the specimen can be washed and scrubbed, and the number will remain legible.

When the specimen is large enough, a typewritten label on thin bond paper with complete data as to species, location found and source obtained from, can be made and pasted on the specimen with DuPont cement. Allow it to dry thoroughly and then apply two coats of lacquer. Some collectors use adhesive tape, but even the best of tape will dry and fall off in a few months.

Betty Wilklow of the Colorado Mineral Society has a good idea for labeling her private collection. She mounts each specimen on a sheet of plastic with cement, and uses an electric etching tool to inscribe the information regarding the particular specimen. This also protects the specimen when it is being handled, for it is not necessary to touch the mineral.

A catalog should be kept by all mineral collectors, and one of the best and most simple methods is a notebook. Start with number one, and as specimens are added to the collection give each a succeeding number. From this numbered list any number of categories can be worked out to keep a record of the various species separate.

Most people collect minerals because they find them interesting, and consequently want to make their collection interesting to everyone who views it. It is well to remember that a lovely specimen should not only be kept clean and sparkling, it should be properly identified. — Mary P. Allen in the Arrowhead Mineralogical Society's *Arrow Points*

It is sometimes dangerous to tighten a nut too tightly against the flange when putting a new emery wheel on your sander. A grain of sand or emery that has fallen between the flange and the wheel may cause the wheel to break if too much pressure is put on the nut.—*Stone Tablet*

SYNTHETIC SAPPHIRE FINDS INCREASING USE

Synthetic sapphire (100 percent aluminum oxide) was first made around 1910 by the Frenchman Verneuil. Actually he was attempting to produce synthetic ruby, a form of true sapphire containing chrome, when the discovery was made.

Until recently, synthetic sapphires were used for watch jewels and ring stones, but today they are finding wide use in guided missiles, industrial automation instruments and medical equipment. Reason for this is the material's ability to transmit infrared rays which can be detected with precision. —St. Louis Mineral and Gem Society's *Rock Lore*

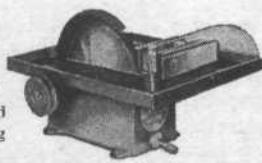
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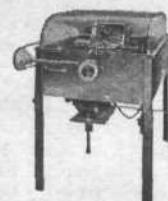
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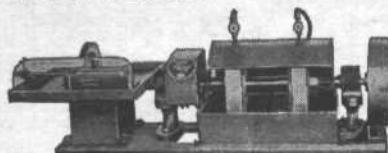
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GEMMY FLUORITE octahedrons. 3 pairs \$1. Each pair a different color. Gene Curtiss, 911 Pine St., Benton, Kentucky.

A DOZEN FOSSILS of the great southwest. These fossils are named, and their approximate ages given. For these relics out of the past send \$2 to: El Paso Fossils, 924 Ash Lane, El Paso, Texas. Write for other free information concerning fossil prices.

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MISCELLANEOUS

35-YEAR COLLECTION of rocks, petrified palm, iron and other woods, agates, fire agates and cabinet specimens. D. W. Rogers, three blocks north of Midland Elevator, Ashton, Idaho.

MICROSCOPE NEEDED TO IDENTIFY PETRIFIED WOOD

Identification of petrified wood in the laboratory is accomplished by viewing slides of $\frac{1}{8}$ -inch thick slabs of the rock under a microscope. According to Mrs. Virginia Page of the Stanford University Department of Biological Sciences, these slides are of the wood cut in three planes—across the grain, radially with respect to the center of the stem, and tangentially. After the thin slices of wood are mounted on a glass slide, they must be ground down until they are transparent.

Reason for preparing sections of three planes is that the microscope characters on which the keys for identification are based must be received from these three directions. This applies to woods such as pine and oak, but not the popular palm woods found on the desert. Only a cross section slide of the palm is needed for identification.

Most microscopic characteristics of wood are obliterated in the fossilization process. Nor can one rely on the type of petrification or mineralization. A given kind of wood can be found in a variety of forms of mineralization. And conversely, woods that appear to be identical from the standpoint of the way in which they have been preserved, prove on investigation with a microscope to be composed of a variety of kinds. Thus, it is impossible to identify wood with the naked eye.—Slover Gem and Mineral Society's *The Rolling Stone*

BERYLLOUM-COPPER IS MIRACLE METAL ALLOY

Less than two percent by weight of beryllium added to copper will produce an alloy hard enough to cut steel. This combination is used in the manufacture of watch springs, instrument panels on airplanes, autos and radar, and also in the sensitive fire control equipment of large guns.

Beryllium was discovered in 1925. It is two-thirds the weight of aluminum. The only known use of pure beryllium is in X-Ray tubes. Twenty years ago a pound of pure beryllium cost \$500—today the cost is \$15.—*Rock Lore*

• • •

Californium — chemical element number 98—was created in 1950 by atomic physicists using the huge cyclotron at the University of California at Berkeley. Only about 5000 atoms—less than one billion billions of a gram—of californium were produced.—*S.M.S. Matrix*

NORTHWEST SHOW IS AUGUST HIGHLIGHT

The Northwest Federation of Mineralogical Societies' 18th Annual Convention and Show is scheduled for Pasco, Washington. The event takes place at the high school on August 30, 31 and September 1.

Host society is the Lakeside Gem and Mineral Club of Pasco and Kennewick, the latter community being just across the Columbia River from the convention town.

Show officials said the fluorescent display probably will be the largest and best ever shown in the northwest. Camping for visitors along the river will be available, and general admission for the show is 50c a day, or \$1 for the three days.

Also scheduled for August are these shows:

August 1-3—Sheridan, Wyoming. Annual Show of the Wyoming State Mineral and Gem Societies at the Fairgrounds.

August 2-3—Anderson, California. Second Annual Rock Swap of the Shasta Gem and Mineral Society. Event will be held at the Coleman Fish Hatchery, 11 miles east of Anderson. Camping, fishing and swimming available to visitors.

August 7-9—Asheville, North Carolina. Eastern Federation of Mineralogical Societies Annual Convention and Show. Southern Appalachian Mineral Society, host.

August 10—Hollister, California. Tri-County Clubs Annual Rock Swap at Bolado Park. Sponsored by Hollister, Monterey Bay, Santa Cruz and Pajaro Valley societies.

August 14-17—Placerville, California. El Dorado County Gem and Mineral Society's show in conjunction with county fair.

August 16-17—Morton, Washington. Rockologist Club's Second Annual Jubilee Gem and Mineral Show.

August 16-17—Santa Cruz, California. Mineral and Gem Society's show at Riverside Hotel.

August 29-September 1—Morro Bay, California. Estero Bay Gem and Mineral Society's Gem Exhibit, held in conjunction with the Morro Bay Art Festival.

AMERICAN FEDERATION ELECTS HAZEN T. PERRY

Hazen T. Perry of the Midwest Federation was elected president of the American Federation of Mineralogical Societies. Serving with Perry will be Mrs. Helen M. Rice (Northwest Federation), vice president; Henry B. Graves (Eastern), secretary; James F. Hurlburt (Rocky Mountain), treasurer; Dwight Halstead (Texas) and Lowell Lovell (California), regional vice presidents. —*Gem Cutters News*

* * *

Ennis Scott is the newly elected president of the Coachella Valley, California, Mineral Society. Also elected were: Gaylon Robertson, vice president; Joan St. John, secretary; May Beckwith, treasurer; LeRoy Pawley, director; and Clifton Carney, federation director.—*Lik'n Lap*

* * *

Bob Sharman will head the Shadow Mountain Gem and Mineral Society of Palm Desert, California, next year. Jack Lizer was re-elected vice president. Also elected were Mavourneen Auld, corresponding secretary; Emily Hiatt, recording secretary; Leonard Hayward, treasurer; Rex Gullick, business manager; Fern Davis, Doug Duckering, Paul Lister, Bernice Roland, Beth Sharman, George Haller, Elizabeth Nelson, Maurice Wright and Byron Phillips, directors.

* * *

Floyd Mortimer was elected president of the Arrowhead Mineralogical Society of the San Bernardino, California, area. Also named to office were Elmer Jarrett, vice president; Grace LeBlanc, secretary; Kay Mortimer, treasurer; Johnnie Short, federation director; Eula Short, bulletin editor; and Glen Gipson, trustee.—*Arrow Points*

* * *

The following officers were elected by the East Bay Mineral Society of Oakland, California: R. E. Lamberson, president; Dorothy Miller, vice president; Joy Swindell, secretary; Luanna and Murr Graham, treasurers; and Edna and Ted Black, directors.—*East Bay Nodule*

* * *

Walter Brewer is the newly elected president of the Gem and Mineral Society of San Mateo County, California. Serving with him will be Ralph Stanley, vice president; Mary Beuchat, secretary; and Earl Steinbeck, treasurer.—*Gems*

Members of the Montebello, California, Mineral and Lapidary Society elected these new officers: Jack Schwartz, president; Donald S. Hall, vice president; Robert A. Carter, secretary; Vera Fluke, financial secretary; W. N. Ewing, treasurer; Frances Ewing, bulletin editor; Albert D. Carter, federation director; and John Morrell and Karel Blair, directors.—*The Braggin' Rock*

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| 14" | 42.60 | 36.50 |
| 16" | 49.20 | 43.45 |
| 18" | 69.75 | 59.65 |
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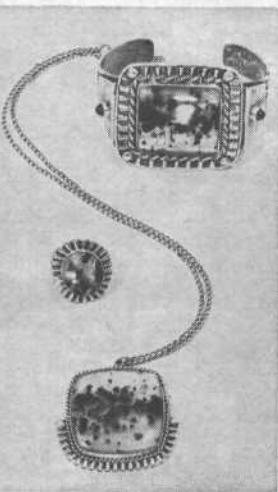
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AMATEUR GEM CUTTER

By Dr. H. C. DAKE, Editor of The Mineralogist

In the examination of tourmaline for flaws, either in the rough or cut, carbon disulphide can be used to good advantage. This liquid has the same index of refraction as tourmaline, hence tourmaline will appear to disappear. Flaws in tourmaline will show with remarkable clarity when the rough fragment or cut stone is submerged with a small amount of carbon disulphide.

* * *

Much of the strongly fluorescent Canadian wernerite can be cut into attractive cabochon gem stones. The material, with its bright yellow color, has the added attraction of being strongly fluorescent and has found wide popularity amongst collectors and lapidaries. Wernerite has an average hardness approximating opal, and will take a good polish.

* * *

The occurrence of green to white jadeite from Clear Creek, San Benito County, California, has been described in a paper by Chesterman and Yoder of the U. S. Geological Survey. According to these writers the following observations have been made:

Jadeite is found in small veins cutting albite-glaucophane, acmite schist, and as larger lens-shaped pods with serpentine. The vein jadeite is associated with albite, analcite, natrolite and thomsonite, while prehnite, thomsonite and minor sphene are found associated with the jadeite pods. The white jadeite vein material is almost pure jadeite.

Chemical analysis of the green jadeite shows that it carries about 10 percent of the diopside molecule and 14 percent of the acmite molecule. The average specific gravity is 3.43. The mineral association suggests that the jadeite has formed under low temperature and pressure conditions, and that there are several possible modes of origin.

* * *

The problem of determining the cause of color in gems has long engaged the attention of gemology. For years the cause of color in amethyst was thought to be due to the presence of manganese. It has been more recently shown that the cause of color in amethyst is due to its molecular structure rather than any extraneous included material. Proof of this is the fact that the color of amethyst can be altered by heat treatment at comparatively low temperatures. The heat treatment doubtlessly brings about a rearrangement of the molecules, thus causing a change in color.

Color in smoky quartz was also a matter of uncertainty and speculation for many years. It has been shown that the smoky appearance of some quartz crystals is due to exposure to radium radiations while in the ground. Quartz crystals in an area where there is an abnormal amount of natural gamma radiation will alter to a smoky color. It has been established that the smoky quartz crystals found in the European Alps will vary in color depending on the elevations where they are found. The surrounding rocks vary in radioactivity at different elevations, and the individual familiar with these specimens can tell at a glance the approximate elevation where they were found.

Recent experiments with diamonds and other gem stones have established the fact that the color can be altered by exposure to heavy radiations from radium and X-rays. The many recent discoveries in the field of nuclear fission undoubtedly will find application in gemology.

The heat treatment to improve the color of zircon is well known. A certain number of dark colored, off colored, or colorless zircons will upon heat treatment change to beautiful "electric" blue. This work generally is carried out (in America) in the electric furnace where the temperatures can be raised and lowered slowly and kept under close control. In the case of most gem stones there is a "critical" temperature where the change in color takes place instantaneously. Below this temperature no change occurs, and if the temperature is raised too far above the critical point the color may be destroyed. In the case of zircon the color change is not permanent in all the stones; some of them gradually fade out to a much paler shade. The color may be improved temporarily (for several months on the average) by being subjected to heat treatment.

For centuries agate has been treated by various methods to alter or improve its color. Agate treatment may be grouped under two classes: chemical and heat. Some methods involve a combination of chemical and heat treatment. The agate may first be soaked in some chemical solution for a number of months and then subjected to heat treatment to alter the color of the absorbed chemical.

* * *

Huge agates are more or less common to many localities in the western states, but they are rare in the Midwest region. What is perhaps the largest or one of the largest agates every found in Minnesota, is the 32 pound mass of sagenite agate from the Shiely gravel pit, near Minneapolis. This huge specimen was acquired by Ray Lulling of St. Paul.

* * *

Agates do not occur *in situ* in the Midwest region. In all probability all of them were brought down from the north by the Pleistocene glaciers. The Midwest gem hunters find their agates in places like commercial gravel pits, and at times in plowed fields, but at no locality are they plentiful, and usually limited in size to a few pounds in weight, hence the 32 pound mass is likely a record. Agate masses, weighing up to 100 and 200 pounds are fairly common to many far west localities.

Some years ago a huge single mass of jaspagite was found in a wheat field at Antelope, Oregon. This enormous mass was all solid gem quality. It measured approximately 4 x 2 x 5 feet, and thousands of pounds in weight. It required the services of two stout horses, plus rollers, to drag it out of the field. For several years passing gem hunters were invited to "help yourself," as it was a nuisance to the farm owner. Finally after hundreds of pounds were broken off, it was sold for \$5.00 to a Washington state gem cutter. From Antelope, the mass was hauled to the railroad at Shaniko for shipment.

This huge mass was found at Antelope in 1935, during the depression days when agate was at a low value and the demand was not great. A mass of this kind would be worth at least 50c a pound or over \$5,000 today.

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Just Between You and Me

By RANDALL HENDERSON

READING THE PROOFS of this issue of *Desert Magazine* I paused many times to study the faces pictured on page 21—photographs of Paul Jones and Maurice McCabe, the tribal executives who are leading the great Navajo people in their quest for education, economic security, and all the advantages and opportunities to which human beings aspire.

Somehow, I feel that the affairs of the Navajos are in good hands—and that the wealth that has come to these people through their oil leases and uranium mines will be spent honestly, and wisely.

* * *

On another front, the Indians—and I am referring now to the approximately 300 tribes in the United States—are in a period of readjustment that is difficult and often confusing both to themselves and to Uncle Sam, their trustee.

I have just been reading a critical blast directed at the Bureau of Indian Affairs by Oliver La Farge, president of the Association on Indian Affairs. This association was formed for worthy purposes—to help the American Indians attain the rights and opportunities—and the dignity—of full American citizenship.

It was to this end that Congress in August, 1953, without a dissenting vote passed Concurrent Resolution 108 which declared it to be the policy of the federal government that the federal trusteeship over all Indians should be discontinued as rapidly as possible—that is, as rapidly as the circumstances of each tribe would permit.

Commissioner Emmons and his staff in the Indian Bureau have been trying faithfully to carry out this policy. They have set up safeguards to protect both individual and tribal interests, and from my personal observation in the tribes with which I am acquainted, the Bureau is doing a commendable job.

La Farge's accusation that the white men are stealing the Indians' land is untrue and unfair.

Critics of the Emmons administration make the mistake of trying to classify all Indians in a single category. Actually, there are as many problems in the administration of Indian affairs as there are tribes. Indians, in their basic desires and abilities, are much the same as other human beings.

Among them are strong competent men and women who aspire and have the ability to be free, independent citizens—to own their own property, and to make their way in a free competitive economy without charity from anyone. The program of terminating the federal trusteeship is a godsend to these people.

But there also are many tribesmen who for traditional

or personal reasons are reluctant to surrender the subsidies they receive from Uncle Sam. They want to keep their free schools and hospitals and the many services Uncle Sam provides for them, including their exemption from state and federal taxes.

We can understand this, for we have comparable groups in our white society—those who make their own way without fear or favor; and those who want farm subsidies, closed shop unions, pensions for able-bodied veterans and other gratuitous aids that will relieve them of some degree of personal responsibility for their own welfare.

And so there is conflict among the Indians themselves. Some want their reservation lands divided and allotted to them as individuals. Others want to keep their tribal lands intact under collective ownership, with Uncle Sam as a guarantor of their welfare.

Commissioner Emmons has the difficult task of steering a course that cannot possibly meet with the approval of both factions. But he is trying—honestly and faithfully—and for that we should give him full credit.

* * *

On a recent trip through the Indian country of northern Arizona I spent a delightful evening with Shine Smith at Cameron.

Good ol' Shine! He came to the Navajo reservation 42 years ago as a young Presbyterian missionary. According to his code, the doctrine of heaven for the saints and hell for the sinners was less important than the immediate need for food and clothing, medicine for the ill, courage for the down-hearted, and love expressed in terms of service to all regardless of the gods they worshipped.

In 1921 the Navajos had a bad winter. Frigid weather with much snow and ice brought sickness and death to many of these ill-clad and badly housed tribesmen. Hugh Dickson Smith, the missionary, kept a string of saddle ponies at Tuba City, and rode day and night on errands of mercy to the Indians. Friends marvelled at his endurance. He not only faced blizzards to carry food and warm clothing to hogans far and wide over the reservation, but he also brought hope and good cheer.

Due to his unorthodox ministry, the church long ago withdrew its support of his work—but he carries on with faith that from some source the funds for his own meager needs and those of the Indian families will be forthcoming—and they always are.

To the Indians he became known as the friend "who brings hope and life like the Sun shining on Mother Earth." Gradually he became known as Sunshine Smith. Today he is plain Shine Smith—loved by everyone who has had the privilege of knowing him.

BOOKS of the SOUTHWEST

FAMED JOURNAL, DOCUMENTS, MAP OF EARLY WESTERN RAILROAD SURVEY REPRINTED

In the early 1850s one of the burning public issues concerned which of the four proposed transcontinental railroad routes the government should sanction: (1) the Northern, or Whitney; (2) the Central, or Benton; (3) the Albuquerque, or Gwinn; or (4) the Extreme Southern.

Congress, moving to find more solid ground on which to base a decision, ordered surveys of the lines. It matters little that none of the routes was eventually chosen (the first railway took the regular emigrant route up the Platte, passed north of Great Salt Lake and entered California through the Sierras), for out of these surveys have come reports, journals and descriptions of the land which are an invaluable part of early Western literature.

The most recent of the Arthur H. Clark Company's splendid "The Far West and the Rockies Historical Series" (Volume VII) is a reprint of the various documents which supported the Central Route, principally the "Journal of the Expedition of E. F. Beale, Superintendent of Indian Affairs in California, and Gwinn Harris Heap, from Missouri to California in 1853," and also material on railroad and Indian affairs by Beale, Thomas H. Benton, Kit Carson, and Col. E. A. Hitchcock, and other papers.

Central Route to the Pacific by Gwinn Harris Heap is edited by Brigham Young University Historian Leroy R. Hafen, who also supplies the introduction to the work and scores of invaluable footnotes.

Beale, leader of the survey expedition, is remembered for his experiments in introducing camels to the Great American Desert. Heap was the expedition's journalist.

A special feature of this volume is the long folding map of the Central Route included in only a few copies of the original edition. This is regarded as the first accurate and detailed map of the region from Huerfano River to Little Salt Lake. The balance of the route is taken from maps by Fremont and others.

For the reader, this is more than a book of historical significance. The objectively-written accounts of crossing the virgin prairie, or finding great buffalo herds, camping under the stars, meeting emigrant trains, Indian encounters, and fording the treacherous Western rivers make vivid reading.

One feels a true kinship with these pioneer travelers when everyday events—from fighting off mosquitoes to beholding breathtaking scenery—are described. Here is true history—the on-the-spot accounts of great stretches of the West before they were settled by white men.

Published by the Arthur H. Clark Company, Glendale, California; with full scale reproduction of the scarce folding map drawn by Heap; portrait of Beale; facsimile of the original title page and the full series of 13 lithographed plates from the original edition; index; notes; uncut deckle-edged paper; limited edition; 346 pages; \$9.50.

• • • GEORGIE WHITE STORY PUBLISHED IN NEW BOOK

Last year Georgie White with her flotilla of neoprene rafts piloted 401 passengers down and through the most turbulent rivers in western United States—without serious injury to a single person. Her expeditions included three voyages through the Grand Can-

yon from Lee's Ferry to Lake Mead, generally regarded as the most hazardous of all the river journeys in the West.

Her share-the-expense expeditions have made it possible for large numbers of adventurers who otherwise could not afford the expense of a canyon boat trip, to experience the thrills of navigation in the rapids.

On one of her television broadcasts, Georgie White was introduced as the "Woman of the Rivers" and the book now published under that title gives a brief biographical sketch of this unusual woman.

Georgie's exploits as a river-runner have been given time on various television programs—and now they are available in book form. The book *Woman of the Rivers* was written by Georgie's sister, Rose Marie DeRoss, who from an office in Los Angeles handles the booking and office details of the river expeditions.

Mrs. DeRoss has told the story from the viewpoint of a passenger on trips through Grand Canyon, Glen Canyon, Cataract Canyon and the San Juan River. The narratives are a day-by-day record of navigation through

(Continued on page 43)

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BOOKS . . .

(Continued from page 41)

treacherous rapids in a setting of gorgeous canyons. The evening campfires, the side canyon hikes, the commissary arrangements, the good humor of the voyagers—all these facets of a river voyage are related in this very readable book.

Published by Desert Magazine Press. 84 pages. Halftones, maps. Paper cover. \$2.00.

• • • HE DISCOVERED THE CLIFF HOMES OF THE ANCIENTS

Frank McNitt's book, *Richard Wetherill: Anasazi*, is the fascinating story of Richard Wetherill, born in 1850 and murdered in 1910, who dedicated his life to the search for evidences of ancient man in the Southwest.

The Wetherill family lived on Alamo Ranch on the Mancos River in Colorado near Mesa Verde. Richard's first discoveries of cliff dwellings on forays for stray cattle fired the young man's imagination and gave him an increasing urge through the years to hunt far and wide for the cliff homes of the ancient peoples who lived in the Southwest hundreds of years ago.

Perhaps it was the finding and naming of the hauntingly beautiful Cliff Palace on Mesa Verde which determined his career and eventually turned him from ranching to the hazards and excitement of full time archeology. Through the years he explored, dug thoroughly and carefully in the countless ancient ruins he discovered, and recorded painstakingly all of his findings, shipping his collections to fairs, schools and museums.

A meeting with a wealthy pair of brothers, Talbot and Fred Hyde of New York, led to the formation of the Hyde Exploring Expeditions and Richard's employment for years as leader of expeditions in search of archeological ruins throughout the Southwest. Richard Wetherill was the first to distinguish between the Cliff Dwellers and the Basket People, as he termed them, who pre-dated the Cliff Dwellers.

Richard married Marietta Palmer in 1896 and their life was a constant struggle to make ends meet but Marietta was a gallant partner and bore five children, carrying on alone after Richard was killed by a Navajo in 1910. About the time of their marriage, the Hydes decided that an expedition should explore the huge Pueblo Bonito in Chaco Canyon, New Mexico. There Richard's brothers Al and Clayton built and operated a trading station and in 1898 Richard started

a ranch establishment near the walls of Pueblo Bonito where he was to spend most of the rest of his life in exploration of Chaco Canyon's many ruins.

The author's thorough and obviously sympathetic research on the life and work of Richard Wetherill gives entertaining and informative material on the early period of archeological exploration of a wide section of the Southwest. The countless rugged canyons of that almost unknown area provided a dangerous and grueling job in those early days but Richard faced his chosen life work with boundless determination and enthusiasm.

McNitt relates the differing ideas concerning Richard Wetherill, tales that he was dishonest and mistreated the Navajos—but one feels that the author was convinced, through thorough research, of Wetherill's integrity. There was criticism too of Richard's archeological exploration but the book leaves one with the firm impression that he made a great contribution to the historical and archeological worlds, and little doubt that he was motivated by sincere love and enthusiasm for the untiring and not too well paid work he undertook.

Published by University of New Mexico Press, Albuquerque. 362 pp. including informative appendices, photographs, maps of Mesa Verde and Chaco Canyon, and an extensive bibliography. \$10.00.

• • • BOOK ON SOUTHWEST INDIAN CEREMONIALS REPRINTED

Fast gaining recognition as a Southwest classic, Erna Fergusson's *Dancing Gods* again has been reprinted. It was published in 1931 and reprinted in 1934 and 1942. The author is a native of New Mexico and widely known for her books on the Southwest and Latin America.

A business of guiding tourists at Indian dances in New Mexico and Arizona led to the writing of *Dancing Gods*. This personal observation combined with careful research resulted in a treasury of factual information on the dances and ceremonials of Southwestern Indians.

Published by University of New Mexico Press; 16 full-page illustrations of paintings by prominent Southwest artists; index; 286 pages; \$5.00.

• • • BOOKLET DESCRIBES DRIVE TO BAJA CALIFORNIA TIP

Solo Below is the personal account of a drive to the tip of Baja California by Leo O. Donahue, writing under the pen-name of Don A. Hugh, general manager of the AAA Publishing Company of San Bernardino, California.

Donahue made the trip in a standard

pickup truck, and traveled alone. All who dream of following the sandy trails across the primitive stretches of Baja, will find real interest and worth in this small booklet. This is a challenging trip, a never-to-be-forgotten adventure, and the author makes it very clear that its hardships are far outweighed by the rewards.

Given are tips on equipment, water, driving, legal requirements, roads, etc. The author also describes the trip's highlights, including the missions, villages, vegetation and some of the nice people he visited.

Published by AAA Publishing Company, San Bernardino; map; illustrations; paper-cover; 72 pages; \$1.

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